

**Department of Energy (DOE)
Office of Energy Efficiency and Renewable Energy (EERE)**

Industrial Assessment Centers

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Submission Deadline for Letter of Intent:	04/1/2021 5:00pm ET
Submission Deadline for Full Applications:	04/22/2021 5:00pm ET
Expected Submission Deadline for Replies to Reviewer Comments:	05/19/2021 5:00pm ET
Expected Date for EERE Selection Notifications:	06/08/2021
Expected Timeframe for Award Negotiations:	June - August 2021

- To apply to this FOA, applicants must register with and submit application materials through EERE Exchange at <https://eere-Exchange.energy.gov>, EERE’s online application portal.
- Applicants must designate primary and backup points-of-contact in EERE Exchange with whom EERE will communicate to conduct award negotiations. If an application is selected for award negotiations, it is not a commitment to issue an award. It is imperative that the applicant/selectee be responsive during award negotiations and meet negotiation deadlines. Failure to do so may result in cancelation of further award negotiations and rescission of the selection.
- EERE is compiling a Teaming Partner List to facilitate the widest possible participation for this FOA, especially between eligible institutions of higher education that would serve as Industrial Assessment Centers and community colleges or technical programs that would support Topic 2 activities. The list allows organizations with expertise in the topic and wish to participate in an application, but may not be eligible to apply as the prime applicant to the FOA, to express their interest to potential applicants and to explore potential partnerships. The list will be available on EERE Exchange at <https://eere-Exchange.energy.gov> under FOA Number: DE-FOA-0002452. The list will be updated at least weekly until the close of the application period, to reflect new Teaming Partners who have provided their information. Any organization that would like to be

included on this list should submit the following information to IACTeamingList@hq.doe.gov with the subject line “Teaming Partner Information”:

- Organization Name
- Generic Organization Contact Email
- One of the following: Generic Organization Contact Email, Web Site Contact-Us URL, or social media URL (Facebook, LinkedIn, Twitter, etc.)
- Organization Type
- Area of Technical Expertise (bulleted list less than 25 words), and
- Brief Description of Capabilities (less than 100 words)

By submitting a request to be included on the Teaming Partner List, the requesting organization consents to the publication of the above-referenced information. Each organization should provide a generic point of contact e-mail address to receive queries. Direct personal e-mail addresses will not be posted. By facilitating this Teaming Partner List, EERE does not endorse or otherwise evaluate the qualifications of the entities that self-identify themselves for placement on the Teaming Partner List. EERE will not pay for the provision of any information, nor will it compensate any applicants or requesting organizations for the development of such information.

Modifications

All modifications to the FOA are highlighted in yellow in the body of the FOA.

Mod. No.	Date	Description of Modification		
0001	3/9/2021	<p>The purpose of this modification is to: add a Submission Deadline for Reviewer Comments to the table on page 1; edit the first paragraph in Section III.F., page 28, to clarify that only one application is allowed per institution; and fix missing format issue of labeling “Funding Opportunity Description” on page 7 as the start of section I.</p> <p>Page 1 added:</p> <table border="1"> <tr> <td>Expected Submission Deadline for Replies to Reviewer Comments:</td> <td>05/19/2021 5:00pm ET</td> </tr> </table> <p>Page 28—Revised Section III.F. to read as follows: An entity may only submit one Full Application to this FOA. If an applicant is seeking to apply for funding under both topic areas, the applicant must submit only one full application that addresses both topic areas. See Section IV.D.i. Full Application Content Requirements and Section I.B. Topic Areas for more information.</p>	Expected Submission Deadline for Replies to Reviewer Comments:	05/19/2021 5:00pm ET
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		<p>EERE will only consider one Full Application per institution of higher education. For example, EERE will only consider one Full Application per university (not one submission per each college or school under the university). If an entity submits more than one Full Application, EERE will request a determination from the applicant's authorizing representative as to which application should be reviewed.</p> <p>Page 7: Added missing Section title in front of "Funding Opportunity Description"</p> <ul style="list-style-type: none">I. Funding Opportunity Description
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I. Funding Opportunity Description

A. Background and Context

i. Background and Purpose

This Funding Opportunity Announcement (FOA) is being issued by the U.S. Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) Advanced Manufacturing Office (AMO). The U.S. manufacturing sector uses 25% of the nation's energy and has an annual energy bill of more than \$150 billion. Efficiency improvements in manufacturing not only benefit the manufacturing sector, but also impact the energy efficiency of products used throughout the economy.

AMO's technical partnerships support the development, deployment and validation of technologies and practices including increasing the productivity and competitiveness of American manufacturers and other large energy-using facilities and continuing the education and development of the US workforce of energy professionals.

The Federal Government has been funding the Industrial Assessment Center (IAC)¹ program, formerly called the Energy Analysis and Diagnostic Center program, since 1976. The goal of the IAC program is twofold: first, to help US manufacturing competitiveness by providing assessments and recommendations for small and medium-sized enterprises (SMEs) on energy efficiency, productivity, sustainability and competitiveness – including measuring the impacts of these recommendations on reducing greenhouse gas emissions; and second, to address a growing shortage of engineering professionals with applied energy and manufacturing-related skills by training a diverse cross-section of engineering students through hands-on involvement in these assessments.

The Energy Independence and Security Act of 2007, Section 452 (e), as codified in 42 U.S.C. 17111(e), which authorizes this activity, specifically identifies the purposes for IACs:

(e)Institution of higher education-based industrial research and assessment centers. The Secretary shall provide funding to institution of higher education-based industrial research and assessment centers, whose purpose shall be—

¹ U.S. Department of Energy. Advanced Manufacturing Office. IAC Program website, <http://www.energy.gov/eere/amo/industrial-assessment-centers-iacs>.

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- (1) to identify opportunities for optimizing energy efficiency and environmental performance;
- (2) to promote applications of emerging concepts and technologies in small- and medium-sized manufacturers;
- (3) to promote research and development for the use of alternative energy sources to supply heat, power, and new [feedstocks](#) for energy-intensive industries;
- (4) to coordinate with appropriate Federal and State research offices, and provide a clearinghouse for industrial process and energy efficiency technical assistance resources; and
- (5) to coordinate with State-accredited technical training centers and community colleges, while ensuring appropriate services to all regions of the United States.

In accordance with this direction, this FOA seeks to train the future clean energy and manufacturing workforce by providing hands-on experience for engineering students who will conduct energy assessments at SMEs, often located in rural communities. The IAC program advances the Biden Administration's plan to reach net-zero emissions no later than 2050 and ensure the communities who have suffered the most from pollution are first to benefit.²

The colleges selected to operate an IAC via this FOA are expected to continue targeting SMEs, currently defined as having gross annual sales below \$100M, fewer than 500 employees, and annual energy bills between \$100,000 and \$3.5M, including those SMEs located in disadvantaged communities³. IACs will perform assessments that result in energy and water savings, waste reduction and productivity improvements for SMEs, as well as perform cybersecurity screenings and identify opportunities for smart manufacturing, resiliency

² Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad" (Jan. 27, 2021).

³ DOE defines "disadvantaged communities" to be areas that most suffer from a combination of economic, health, and environmental burdens, such as, poverty, high unemployment, air and water pollution, presence of hazardous wastes as well as high incidence of asthma and heart disease. Example include, but are not limited to: economically distressed communities identified by the Internal Revenue Service as Qualified Opportunity Zones; communities identified as disadvantage communities by their respective States; communities identified on the Index of Deep Disadvantage referenced at <https://news.umich.edu/new-index-ranks-americas-100-most-disadvantaged-communities/>, and communities that otherwise meet the DOE definition of a disadvantaged community.

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planning, and decarbonization and electrification. To date, the IAC program has provided over 19,000 assessments and over 145,000 recommendations for improvement measures. On average, an IAC assessment leads to 5-7 percent implemented annual energy savings and productivity improvements.⁴ In addition, IACs help train the next generation of energy engineers with applied manufacturing-related skills. AMO currently funds, through Cooperative Agreements, 28 IACs located throughout the country who are completing their five-year projects in 2021, as well as three Extension IACs who are in the first half of their projects.⁵ Through this FOA, AMO anticipates selecting the colleges who will operate IACs for the next five-year period. All the IACs are coordinated by DOE staff and a DOE-selected Field Manager.⁶

Successful applicants will need to coordinate their efforts to support related DOE program elements such as the Better Buildings/Better Plants program (<https://betterbuildingssolutioncenter.energy.gov/better-plants>), Combined Heat and Power Technical Assistance Partnerships (CHP TAPs, <http://chptap.org/>) and the ISO 50001 program (<https://www.energy.gov/ISO50001>). Such coordination may take the form of sharing client referrals or by providing mutual technical assistance to clients who can benefit from multiple sources. IACs also need to promote external technical resources, including but not limited to the National Institute of Standards and Technology Manufacturing Extension Partnerships (MEPs), trade associations, utility efficiency programs, state energy programs and other DOE manufacturing/industrial and buildings priorities. Additionally, IACs must be prepared to respond to information requests and be a technical resource for manufacturers/businesses in the region.

This is a restricted eligibility announcement. Eligibility is restricted to the following types of entities: a U.S. college or school of engineering that is an integral part of its institutional structure and that has at least one of its four year undergraduate programs accredited by the Engineering Accreditation Commission or the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET) or equivalent (The IAC must be in the engineering department that holds the programmatic ABET or equivalent accreditation). The U.S. college or school of engineering must be physically located in the U.S. Eligible minority-serving institutions (MSIs) that meet the eligibility requirements are encouraged to apply.

⁴ U.S. Department of Energy, Advanced Manufacturing Office. IAC Database, <https://iac.university/#database>.

⁵ U.S. Department of Energy, Advanced Manufacturing Office. <https://iac.university/#centers>.

⁶ U.S. Department of Energy, Advanced Manufacturing Office. IAC Field Manager website. <https://iac.university/>.

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ii. Technology Space and Strategic Goals

One of the keys to the competitiveness of American manufacturing is a technical workforce knowledgeable about manufacturing processes and the ability to optimize them to reduce costs and minimize waste. Researching and developing the next generation of competitive and efficient advanced manufacturing technologies requires a workforce of engineers with experience in relevant academic and manufacturing fields. In turn, a growing number of technically skilled production workers will be needed to fill the new jobs created by the implementation and operation of these emerging advanced manufacturing technologies. Workforce development efforts – including revitalizing the attractiveness of manufacturing jobs, expanding training programs, and spreading awareness of those training programs to a wider audience, including those from disadvantaged communities – will be essential to enabling U.S. job growth in advanced manufacturing. AMO activities are part of this national effort to address workforce challenges in manufacturing. Specific AMO workforce development goals to which the IAC program will contribute include:

- Develop or advance 15 workforce curricula focused on manufacturing energy systems and advanced technologies, and
- Train at least 3,000 individuals per year in advanced manufacturing technologies and solutions, including energy management practices.
- Expand the participation of MSIs and schools that partner with organizations that increase representation of underrepresented groups in STEM fields. (American Association of Blacks in Energy and National Society of Black Engineers, for example).

Similarly, building owners and operators need a diverse workforce trained to identify and implement affordable energy efficiency opportunities that reduce utility costs for businesses, enabling them to instead spend dollars to support jobs and mission critical requirements.⁷ As commercial buildings incorporate a growing number of connected and controllable technologies, applied training using real time building performance data and using systems-based building energy evaluation methods, will enable skilled individuals to and grow innovative remote and ongoing data-driven energy management practices to achieve cost-effective, persistent energy savings.

⁷ U.S Department of Energy, Better Buildings Workforce Accelerator, <https://betterbuildingssolutioncenter.energy.gov/accelerators/workforce>

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iii. Diversity and Inclusion

It is the policy of the Biden Administration that:

[T]he Federal Government should pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. Affirmatively advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the whole of our Government. Because advancing equity requires a systematic approach to embedding fairness in decision-making processes, executive departments and agencies (agencies) must recognize and work to redress inequities in their policies and programs that serve as barriers to equal opportunity.

By advancing equity across the Federal Government, we can create opportunities for the improvement of communities that have been historically underserved, which benefits everyone.⁸

As part of this whole of government approach, this FOA seeks to encourage the participation of disadvantaged communities and underrepresented groups. Applicants are highly encouraged to include individuals from groups historically underrepresented⁹ in STEM on their projects teams.¹⁰ As part of the application, applicants are required to describe how diversity objectives will be incorporated in the IAC's approach [see Section IV.D]. Specifically, applicants are required to

⁸ Executive Order 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government" (Jan. 20, 2021).

⁹ Historically, minorities and women have been vastly underrepresented in the STEM (science, technology, engineering and math) fields that drive the energy sector. In the U.S., Hispanics, African Americans and American Indians make up 24 percent of the overall workforce, yet only account for 9 percent of the country's science and engineering workforce. DOE seeks to reverse this troubling trend by working to inspire underrepresented Americans to pursue careers in energy and supporting their advancement into leadership positions. <https://www.energy.gov/articles/introducing-minorities-energy-initiative>

¹⁰ As recognized in section 305 of the American Innovation and Competitiveness Act of 2017, Public Law 114-329:

(1) [I]t is critical to our Nation's economic leadership and global competitiveness that the United States educate, train, and retain more scientists, engineers, and computer scientists; (2) there is currently a disconnect between the availability of and growing demand for STEM-skilled workers; (3) historically, underrepresented populations are the largest untapped STEM talent pools in the United States; and (4) given the shifting demographic landscape, the United States should encourage full participation of individuals from underrepresented populations in STEM fields.

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submit a Diversity and Inclusion plan that describes how the proposed IAC will encourage the inclusion of individuals from underrepresented groups in the IAC operations; the extent the IAC workforce development efforts would address the training needs of underrepresented groups; and the extent the IAC (main center) or its partners will operate in and/or provide resources or assessments to entities located in disadvantaged communities. [see Section IV.D]. The plan should include metrics to measure impacts on local community and/or disadvantaged communities. In addition to the Diversity and Inclusion Plan, the applicant's proposed student staffing plan must address student diversity, equity, and inclusion. The elements will be evaluated as part of the merit review of the overall application.

Further, MSIs, Minority Business Enterprises, or entities located in a disadvantaged community¹¹ that meet the eligibility requirements (See Section III) are encouraged to apply as the prime applicant or participate on an application as a proposed partner to the prime applicant. The Selection Official may consider the inclusion of these types of entities as part of the selection decision [see Section V.C].

B. Topic Areas

The following topic areas align with the goals described in Section A.

Topic Area 1: Manufacturing Technical Assistance and Energy Engineering Workforce Development

The selected IACs will establish and operate centers physically located at their universities to provide resources to SMEs, critical suppliers and employers of Americans, including those located in disadvantaged communities. As semi-autonomous entities, the prospective IACs must demonstrate their capabilities to recruit and serve SMEs and describe their approach to identify and communicate recommendations to reduce energy, water usage and waste; increase productivity and competitiveness; identify opportunities for smart manufacturing, resiliency

¹¹ DOE defines "disadvantaged communities" to be areas that most suffer from a combination of economic, health, and environmental burdens, such as, poverty, high unemployment, air and water pollution, presence of hazardous wastes as well as high incidence of asthma and heart disease. Example include, but are not limited to: economically distressed communities identified by the Internal Revenue Service as Qualified Opportunity Zones; communities identified as disadvantage communities by their respective States; communities identified on the Index of Deep Disadvantage referenced at <https://news.umich.edu/new-index-ranks-americas-100-most-disadvantaged-communities/>, and communities that otherwise meet the DOE definition of a disadvantaged community.

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planning, decarbonization and electrification; and provide cyber security screenings. These recommendations need to be effectively reported to the SMEs, together with estimates of the energy and greenhouse gas emissions savings opportunities, implementation costs, and payback periods.

In addition to providing assessments to SMEs, IACs are required to conduct at least 10 percent of their assessments at wastewater treatment/water resource recovery facilities. IACs may also provide a limited number of special assessments that DOE approves in the best interest of enhancing the student's experience as well as resulting in energy savings and other benefits for the recipient of the assessment.

Each IAC will provide extensive training for undergraduate and graduate engineering students in industrial processes, energy assessment procedures, and energy management systems. This training may be provided through formal coursework, seminars, as well as via hands-on activities. Applicants are encouraged to describe how they intend to promote DOE's aspirational goal of establishing an accredited B.S. degree in energy engineering or equivalent field; or describe their plans for enhancement of an existing degree program that addresses the entire range of pedagogical content within the context of IAC activities.

In addition to the services outlined above, DOE is looking for new and innovative ways to accomplish its programmatic goals for manufacturers, and encourages applicants to propose creative approaches to delivering technical assistance, either during the assessment or as part of post-assessment activities, that coincide with emerging DOE priorities, which include:

- Decarbonization – carbon reduction goals are being widely adopted across the manufacturing sector. IACs can help recommend strategies to create and achieve these goals through actual reductions and not solely rely on the purchase of credits;
- Resiliency Planning – whether due to extreme weather, a global pandemic or other external forces, unexpected events disrupt normal production conditions and cause production losses. IACs can assess resilient system designs to minimize production loss during such disruptions; and

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- Workforce development, including through programs that address training needs for underrepresented groups.¹²

Successful applicants will also define how they will maximize the student experience; increase student technical knowledge and business sense; and develop their understanding of key industrial concepts, including industrial supply chains, sustainability issues, and management systems. Students should be encouraged to develop and publish technical papers, online learning materials and assessment-derived replicable best practices and other resources. Applicants should also highlight additional value-added experience opportunities for the IAC, including:

- Scholarship or internship opportunities for students. DOE encourages applicants to discuss how they will attract students from underrepresented groups to participate in these programs;
- Traineeships with National Laboratories or other research institutions;
- Inclusion of other disciplines (e.g., business, marketing, environmental studies, etc.) into student hiring and training;
- Opportunities for students to pursue third-party accreditations and certifications;
- Creation and maintenance of a robust student and alumni social networking system; and
- Other SME or DOE supporting functions, as developed by individual applicants.

IAC applicants must submit for each partner (e.g., electric and gas utilities; state energy offices; MEPs; nonprofit or industry associations), a Letter of Commitment from each partner that clearly shows the cost share support, both cash and in-kind, pledged to the IAC and how the partnership will lead to better access to SMEs, including those located in disadvantaged communities ; increased numbers of SMEs assisted; increased implementation of the opportunities identified in the

¹² Historically, minorities and women have been vastly underrepresented in the STEM (science, technology, engineering and math) fields that drive the energy sector. In the U.S., Hispanics, African Americans and American Indians make up 24 percent of the overall workforce, yet only account for 9 percent of the country's science and engineering workforce. DOE seeks to reverse this troubling trend by working to inspire underrepresented Americans to pursue careers in energy and supporting their advancement into leadership positions.

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IAC assessment; support for the SME beyond the IAC interaction; and/or develop or deliver resources for SMEs that the IACs do not assist.

Historically each IAC completes approximately 20 assessments per year. Given the limited number of actual assessments, successful applicants will describe how they intend to reach non-participating SMEs in their region. Applicants must submit as part of the application's technical volume, an outreach plan that clearly defines the resources and innovative methods to share industry best practices and lessons learned with the widest possible audience. In addition, some means of tracking the uptake of these soft touch points must be discussed.

For a complete list of the application requirements for Topic Area 1, see Section IV.D.

Topic Area 2: Commercial Building Efficiency Workforce Development Pilot Project [Optional Topic]

To be eligible to apply under Topic Area 2, the applicant must also apply under Topic Area 1. If an applicant only applies to Topic Area 2, without also applying to Topic Area 1, the application will be deemed ineligible and will not be submitted for further review by EERE. Additionally, to be eligible for funding under Topic Area 2, the applicant must be selected for award negotiations under both Topic Area 1 and Topic Area 2. That is, EERE will not select any Topic Area 2 applications that are not also selected under Topic Area 1. For a complete list of the eligibility requirements, please see Section III.

IACs routinely provide recommendations for energy efficiency improvement within the building envelop for manufacturing facilities. However, the potential opportunities for energy efficiency improvements in non-manufacturing facilities are significant. Businesses and governments own, operate, and use 93 billion square feet of U.S. real estate¹³, and account for 18 percent (or 18 quadrillion BTUs) of U.S. primary energy use¹⁴ and \$190 billion in energy expenditures every year. A skilled and diverse workforce will help unlock the potential for energy savings in these buildings and offers a significant opportunity for economic growth and skilled job creation.

EERE's goal for this pilot project is to expand the workforce of building efficiency professionals with technical expertise on a range of topics including, but not

¹³ U.S. Department of Energy – Energy Information Administration. Annual Energy Outlook 2020. Table 5. Commercial Sector Key Indicators and Consumption. <https://www.eia.gov/outlooks/aeo>.

¹⁴ U.S. Department of Energy – Energy Information Administration. Annual Energy Outlook 2020. Table A2 Energy Consumption by Sector and Source. <https://www.eia.gov/outlooks/aeo>.

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limited to: space heating and cooling, ventilation, water heating, lighting, cooking, refrigeration and plug and process loads associated with equipment. Specialized curricula – supplemented with an existing credentialing program within EERE’s Buildings Technologies Office (i.e., the Better Buildings Workforce Guidelines for building energy auditor and building commissioning professional (https://www.nibs.org/page/cwcc_resources) – will form the basis for training offered through these partnerships.

While IAC personnel are qualified to perform these activities, DOE seeks to launch a pilot project to expand workforce development programs and to create opportunities for more diverse applicants and students to work within the commercial building market. DOE prefers applications that include technical training provided via partnerships between IACs and community colleges or technical programs (i.e., other educational/vocational entities providing relevant technical content).

Like their IAC student counterparts, building efficiency students and professionals receiving training from community college and technical program partners would benefit from hands-on experience. As part of the pilot, IAC personnel – including experienced students – could work with community colleges and technical programs to train and provide continuous learning for students and professionals in conducting assessments of existing small to medium-sized commercial and other buildings – defined as being less than 100,000 square feet – including those located in disadvantaged communities and to identify and provide on-the-spot efficiency improvements. Logistics for planning and tracking the results of these assessments would fall to the IACs, although the assessments would be conducted by the building efficiency students/professionals, and the assessment teams would be much smaller – perhaps only one or two individuals per assessment. Similarly, individual building reports would be more limited in scope than the typical IAC report and would take less time to complete.¹⁵

Interested applicants must provide a narrative in the Technical Volume identifying any technical school/community college partners (if applicable); the type of coursework to be delivered, including any tools and data-driven evaluation methods to be used, the estimated number of students per year, and the target number of building efficiency assessments to be conducted per year. See section IV.C.ii. Technical Volume for more information.

¹⁵ Guidance on the content and format of the building efficiency review reports will be provided by DOE and the IAC Field Manager

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Applicants must estimate the amount of funding dedicated to Topic Area 2 on an annual basis as well as propose an abbreviated Statement of Project Objectives for this activity in the Technical Volume. Topic Area 2 funding is in addition to the Topic Area 1 funding levels and must be clearly distinguished in the proposed budget for the project.

For a complete list of the application requirements for Topic Area 2, see Section IV.D.

Technical Targets

All IACs selected for award under this FOA will be subject to a project evaluation referred to as a Go/No-Go Review at the end of each Budget Period (which are anticipated to be 12 months in duration). At the Go/No-Go decision points, EERE will evaluate project performance, project schedule adherence, the extent milestone objectives are met, compliance with reporting requirements, and overall contribution to the program goals and objectives. As a result of this evaluation, EERE may, at its discretion, authorize the following actions: (1) continue to fund the project, contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority; (2) recommend redirection of work under the project; (3) place a hold on federal funding for the project, pending further supporting data or funding; or (4) discontinue funding the project because of insufficient progress, change in strategic direction, or lack of funding. It is anticipated under the proposed funding levels that each IAC under Topic Area 1 will:

- Train at least 10 students annually,
- Issue certificates of achievement to at least 5 students annually.
- Conduct approximately 20 assessments per year along with the required, and timely, follow-on reporting, tracking, implementation, and management improvement activities.
- Execute a partnership and outreach plan that increases program implementation and provides energy and water saving assistance to nonparticipants.
- Develop and communicate resources (success stories, energy systems research, etc) that advance the mission of the IAC program and support other SMEs; and
- Provide high quality, value added services to SMEs, including those located in disadvantaged communities, including cybersecurity, smart manufacturing, energy management, sustainability, resiliency planning, decarbonization and other emerging issues.

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It is anticipated under the proposed funding levels that IACs selected under Topic Area 2 will:

- Deliver themselves or mentor trainers in community college/technical program partners to an additional 5-10 students annually; and
- Conduct approximately 10-20 building assessments per year of small to medium-sized commercial and/or other buildings, (i.e., less than 100,000 sq. ft.), including those located in disadvantaged communities, and prepare associated reports.

Each applicant is required to submit an individualized SOPO with their application(s) containing proposed objectives, tasks, milestones and a schedule of deliverables. The SOPO must outline a plan to train students, conduct assessments, develop online resources (e.g., videos, online courses) for students and SMEs, and engage in other related activities which enhance students' and SME experience, and specifically call out all partnership and outreach activities. The SOPO activities, milestones and associated budget will be negotiated and updated on an annual basis as necessary to reflect anticipated funding and it will be developed in collaboration with the DOE lead for the IACs, the DOE Project Officer and the IAC Technical Field Manager. This will offer all parties an opportunity to adjust individual IAC efforts and funding based on prior performance, individual IAC circumstances, as well as DOE's programmatic goals.

The IAC program will accept, within this FOA, various IAC configurations to facilitate the delivery of the key program elements. In the modified configurations, the prime applicant must meet all qualifications as outlined in this FOA and will be considered the prime recipient if selected for award negotiations. Other institutions involved as described below (satellite center, technical program/community college, support center) will operate as sub-recipients to the prime recipient, and are not required to meet all of the prime applicant qualifications (such as accreditation by the Engineering Accreditation Commission (EAC) or the Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (ABET)). These modified configurations include elements such as:

- **Satellite Centers:** One location that meets the program qualification criteria will serve as the Main Center and assume the prime role. One or more satellite locations, which could include other universities or other campuses within the same University system, may be included to perform certain elements of the work under strict guidance and supervision of the Main Center;

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- Building Efficiency Community Colleges/Technical Programs: One location that meets the program qualification criteria will serve as the Main Center and assume the prime role. One or more building efficiency locations provide specialized training to students who then conduct focused building reviews under the guidance and oversight of the Main Center; and
- Support Centers: One location that meets the program qualification criteria will serve as the Main Center and assume the prime role. One or more support centers will provide support in delivering the services of the IAC (e.g., collaboration with Business, Marketing, Communications or other departments within the university).

Eligible MSIs that meet the eligibility requirements are encouraged to apply as the prime applicant to serve as the Main Center or to participate on an application as a proposed partner to the prime applicant.

In addition to funding provided for the above activities, DOE also periodically provides the IACs the opportunity to conduct special projects that further enhance student workforce development or other center performance activities. For example, as part of their specialized energy engineering experience undergraduate and graduate students could pursue assessment-inspired research projects that are consistent with approved SOPO activities in the areas of manufacturing and industrial energy efficiency, waste and water reduction, and productivity improvement. Each IAC applicant must set aside a portion of their annual proposed budget (approximately \$25,000) for these special projects.

Additional information about the current status of the IAC program, universities currently participating in the program, IAC student activities and DOE's portfolio of EERE programs may be found at <https://iac.university/>, <https://iac.university/technicalDocuments>, and <http://www.eere.doe.gov>.

All work under awards selected from this FOA must be performed in the United States and its territories.

C. Applications Specifically Not of Interest

The following types of applications will be deemed nonresponsive and will not be reviewed or considered (See Section III.D. of the FOA):

- Applications that fall outside the technical parameters specified in Section I.A. and I.B. of the FOA.

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D. Authorizing Statutes

The programmatic authorizing statutes are the Energy Policy Act of 2005 (EPA 2005), Section 911(a)(2)(C), as codified in 42 U.S.C. 16191(a)(2)(C); and the Energy Independence and Security Act of 2007 (EISA 2007), Section 452 (e), as codified in 42 U.S.C. 17111(e). Awards made under this announcement will fall under the purview of 2 Code of Federal Regulation (CFR) Part 200 as amended by 2 CFR Part 910.

II. Award Information

A. Award Overview

i. Estimated Funding

EERE expects to make a total of approximately \$52,500,000 of federal funding available for new awards under this FOA, subject to the availability of appropriated funds. EERE anticipates making approximately 25 to 35 awards under this FOA. EERE may issue one, multiple, or no awards. Individual awards may vary between \$1,500,000 and \$2,250,000.

If applicants are selected for both Topic Area 1 and Topic Area 2, EERE intends to negotiate and issue only one award with the applicant that will cover and fund both Topic Areas.

EERE may issue awards in one, multiple, or none of the following topic areas:

Topic Area Number	Topic Area Title	Anticipated Number of Awards	Anticipated Minimum Award Size for Any One Individual Award (Fed Share)	Anticipated Maximum Award Size for Any One Individual Award (Fed Share)	Approximate Total Federal Funding Available for All Awards	Anticipated Period of Performance (months)
1	Manufacturing Technical Assistance and Energy Engineering Workforce Development	25-35	\$1,500,000	\$1,750,000	\$50,000,000	60
2	Commercial Building Efficiency Workforce Development Pilot Project [Note: Applicants must apply for Topic Area 1 to	5	\$500,000	\$500,000	\$2,500,000	60

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	be eligible to apply for Topic Area 2. See Section III]					
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EERE may establish more than one budget period for each award and fund only the initial budget period(s). Funding for all budget periods, including the initial budget period, is not guaranteed.

ii. Period of Performance

EERE anticipates making awards that will run approximately 60 months in length, comprised of one or more budget periods. Project continuation will be contingent upon several elements, including satisfactory performance and Go/No-Go decision review. For more details on the Go/No-Go review process, see Section VI.B.xii. At the Go/No-Go decision points, EERE will evaluate project performance, project schedule adherence, the extent milestone objectives are met, compliance with reporting requirements, and overall contribution to the program goals and objectives. As a result of this evaluation, EERE may, at its discretion, authorize the following actions: (1) continue to fund the project, contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority; (2) recommend redirection of work under the project; (3) place a hold on federal funding for the project, pending further supporting data or funding; or (4) discontinue funding the project because of insufficient progress, change in strategic direction, or lack of funding.

iii. New Applications Only

EERE will accept only new applications under this FOA. EERE will not consider applications for renewals of existing EERE-funded awards through this FOA.

B. EERE Funding Agreements

Through cooperative agreements and other similar agreements, EERE provides financial and other support to projects that have the potential to realize the FOA objectives. EERE does not use such agreements to acquire property or services for the direct benefit or use of the United States government.

i. Cooperative Agreements

EERE generally uses cooperative agreements to provide financial and other support to prime recipients.

Through cooperative agreements, EERE provides financial or other support to accomplish a public purpose of support or stimulation authorized by federal

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statute. Under cooperative agreements, the government and prime recipients share responsibility for the direction of projects.

EERE has substantial involvement in all projects funded via cooperative agreement. See Section VI.B.ix of the FOA for more information on what substantial involvement may involve.

ii. Funding Agreements with Federally Funded Research and Development Center (FFRDCs)

In most cases, FFRDCs are funded independently of the remainder of the project team. The FFRDC then executes an agreement with any non-FFRDC project team members to arrange work structure, project execution, and any other matters. Regardless of these arrangements, the entity that applied as the prime recipient for the project will remain the prime recipient for the project.

III. Eligibility Information

To be considered for substantive evaluation, an applicant's submission must meet the criteria set forth below. If the application does not meet these eligibility requirements, it will be considered ineligible and removed from further evaluation.

A. Eligible Applicants

Only the following entities are eligible to apply under this FOA:

A U.S. college or school of engineering that is an integral part of its institutional structure and that has at least one of its four year undergraduate programs accredited by the Engineering Accreditation Commission or the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET) or equivalent (The IAC must be in the engineering department that holds the programmatic ABET or equivalent accreditation). The U.S. college or school of engineering must be physically located in the U.S.

The authorizing statute for the IAC program requires that the IACs be able to "ensure appropriate services to all regions of the United States," 42 USC 17111(e)(5). To meet this statutory requirement, DOE has limited eligibility to entities physically located in the U.S. or its territories, as each IAC will be expected to provide assessments to manufacturers within their respective

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regions. This restriction is also aligned with goals of the U.S. Department of Energy's Advanced Manufacturing Office to support U.S. manufacturing competitiveness and impact U.S. regional economic development.¹⁶

Nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995 are not eligible to apply for funding.

B. Cost Sharing

The cost share must be at least 20% of the total allowable costs (i.e., the sum of the government share, including FFRDC costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-federal sources unless otherwise allowed by law. (See 2 CFR 200.306 and 2 CFR 910.130 for the applicable cost sharing requirements.)

To assist applicants in calculating proper cost share amounts, EERE has included a cost share information sheet and sample cost share calculation as Appendices A and B to this FOA.

i. Legal Responsibility

Although the cost share requirement applies to the project as a whole, including work performed by members of the project team other than the prime recipient, the prime recipient is legally responsible for paying the entire cost share. If the funding agreement is terminated prior to the end of the project period, the prime recipient is required to contribute at least the cost share percentage of total expenditures incurred through the date of termination.

The prime recipient is solely responsible for managing cost share contributions by the project team and enforcing cost share obligation assumed by project team members in subawards or related agreements.

ii. Cost Share Allocation

Each project team is free to determine how best to allocate the cost share requirement among the team members. The amount contributed by individual project team members may vary, as long as the cost share requirement for the project as a whole is met.

¹⁶ U.S. Department of Energy. Advanced Manufacturing Office Multi-Year Program Plan for Fiscal Years 2017 through 2021, <https://www.energy.gov/eere/amo/downloads/advanced-manufacturing-office-amo-multi-year-program-plan-fiscal-years-2017>.

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iii. Cost Share Types and Allowability

Every cost share contribution must be allowable under the applicable federal cost principles, as described in Section IV.J.i. of the FOA. In addition, cost share must be verifiable upon submission of the Full Application.

Project teams may provide cost share in the form of cash or in-kind contributions. Cost share may be provided by the prime recipient, subrecipients, or third parties (entities that do not have a role in performing the scope of work). Vendors/contractors may not provide cost share. Any partial donation of goods or services is considered a discount and is not allowable.

Cash contributions include, but are not limited to: personnel costs, fringe costs, supply and equipment costs, indirect costs and other direct costs.

In-kind contributions are those where a value of the contribution can be readily determined, verified and justified but where no actual cash is transacted in securing the good or service comprising the contribution. Allowable in-kind contributions include, but are not limited to: the donation of volunteer time or the donation of space or use of equipment.

Project teams may use funding or property received from state or local governments to meet the cost share requirement, so long as the funding was not provided to the state or local government by the federal government.

The prime recipient may not use the following sources to meet its cost share obligations including, but not limited to:

- Revenues or royalties from the prospective operation of an activity beyond the project period;
- Proceeds from the prospective sale of an asset of an activity;
- Federal funding or property (e.g., federal grants, equipment owned by the federal government); or
- Expenditures that were reimbursed under a separate federal program.

Project teams may not use the same cash or in-kind contributions to meet cost share requirements for more than one project or program.

Cost share contributions must be specified in the project budget, verifiable from the prime recipient's records, and necessary and reasonable for proper and efficient accomplishment of the project. As all sources of cost share are

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considered part of total project cost, the cost share dollars will be scrutinized under the same federal regulations as federal dollars to the project. Every cost share contribution must be reviewed and approved in advance by the Contracting Officer and incorporated into the project budget before the expenditures are incurred.

Applicants are encouraged to refer to 2 CFR 200.306 as amended by 2 CFR 910.130 for additional cost sharing requirements.

iv. Cost Share Contributions by FFRDCs

Because FFRDCs are funded by the federal government, costs incurred by FFRDCs generally may not be used to meet the cost share requirement. FFRDCs may contribute cost share only if the contributions are paid directly from the contractor's Management Fee or another non-federal source.

v. Cost Share Verification

Applicants are required to provide written assurance of their proposed cost share contributions in their Full Applications.

Upon selection for award negotiations, applicants are required to provide additional information and documentation regarding their cost share contributions. Please refer to Appendix A of the FOA.

vi. Cost Share Payment

EERE requires prime recipients to contribute the cost share amount incrementally over the life of the award. Specifically, the prime recipient's cost share for each billing period must always reflect the overall cost share ratio negotiated by the parties (i.e., the total amount of cost sharing on each invoice when considered cumulatively with previous invoices must reflect, at a minimum, the cost sharing percentage negotiated). As FFRDC funding will be provided directly to the FFRDC(s) by DOE, prime recipients will be required to provide project cost share at a percentage commensurate with the FFRDC costs, on a budget period basis, resulting in a higher interim invoicing cost share ratio than the total award ratio.

In limited circumstances, and where it is in the government's interest, the EERE Contracting Officer may approve a request by the prime recipient to meet its cost share requirements on a less frequent basis, such as monthly or quarterly. Regardless of the interval requested, the prime recipient must be up-to-date on cost share at each interval. Such requests must be sent to the Contracting Officer during award negotiations and include the following information: (1) a detailed

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justification for the request; (2) a proposed schedule of payments, including amounts and dates; (3) a written commitment to meet that schedule; and (4) such evidence as necessary to demonstrate that the prime recipient has complied with its cost share obligations to date. The Contracting Officer must approve all such requests before they go into effect.

C. Compliance Criteria

Full Applications and Replies to Reviewer Comments must meet all compliance criteria listed below or they will be considered noncompliant. EERE will not review or consider noncompliant submissions, including Full Applications and Replies to Reviewer Comments that were: submitted through means other than EERE Exchange; submitted after the applicable deadline; and/or submitted incomplete. EERE will not extend the submission deadline for applicants that fail to submit required information by the applicable deadline due to server/connection congestion.

i. Compliance Criteria

1. *Letters of Intent*

Letters of Intent are encouraged, but not required. The Letters of Intent will not be subject to a compliance review.

2. *Full Applications*

Full Applications are deemed compliant if:

- The Full Application complies with the content and form requirements in Section IV.D. of the FOA; and
- The applicant successfully uploaded all required documents and clicked the “Submit” button in EERE Exchange by the deadline stated in the FOA.

3. *Replies to Reviewer Comments*

Replies to Reviewer Comments are deemed compliant if:

- The Reply to Reviewer Comments complies with the content and form requirements in Section IV.E. of the FOA; and
- The applicant successfully uploaded all required documents to EERE Exchange by the deadline stated in the FOA.

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D. Responsiveness Criteria

All “Applications Specifically Not of Interest,” as described in Section I.C. of the FOA, are deemed nonresponsive and are not reviewed or considered.

E. Other Eligibility Requirements

i. Requirements for DOE/NNSA and non-DOE/NNSA Federally Funded Research and Development Centers Included as a Subrecipient

DOE/NNSA and non-DOE/NNSA FFRDCs may be proposed as a subrecipient on another entity’s application subject to the following guidelines:

1. *Authorization for non-DOE/NNSA FFRDCs*

The federal agency sponsoring the FFRDC must authorize in writing the use of the FFRDC on the proposed project and this authorization must be submitted with the application. The use of a FFRDC must be consistent with its authority under its award.

2. *Authorization for DOE/NNSA FFRDCs*

The cognizant Contracting Officer for the FFRDC must authorize in writing the use of the FFRDC on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization:

Authorization is granted for the Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, and will not adversely impact execution of the DOE assigned programs at the laboratory.

3. *Value/Funding*

The value of and funding for the FFRDC portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE/NNSA FFRDC contractor through the DOE field work proposal (WP) system and non-DOE/NNSA FFRDC through an interagency agreement with the sponsoring agency.

4. *Cost Share*

Although the FFRDC portion of the work is usually excluded from the award to a successful applicant, the applicant’s cost share requirement will be

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based on the total cost of the project, including the applicant's, the subrecipient's, and the FFRDC's portions of the project.

5. *Responsibility*

The prime recipient will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues including, but not limited to disputes and claims arising out of any agreement between the prime recipient and the FFRDC contractor.

6. *Limit on FFRDC Effort*

The scope of work to be performed by the FFRDC may not be more significant than the scope of work to be performed by the applicant.

F. Limitation on Number of Full Applications Eligible for Review

An entity may only submit one Full Application to this FOA. If an applicant is seeking to apply for funding under both topic areas, the applicant must submit only one Full Application that addresses both topic areas. See Section IV.D.i. Full Application Content Requirements and Section I.B. Topic Areas for more information.

EERE will only consider one Full Application per institution of higher education. For example, EERE will only consider one Full Application per university (not one submission per each college or school under the university). If an entity submits more than one Full Application, EERE will request a determination from the applicant's authorizing representative as to which application should be reviewed. Any other submissions received listing the same entity as the applicant will not be eligible for further consideration. This limitation does not prohibit an entity from collaborating on other submissions to this FOA (e.g., as a proposed Satellite or Support Center or other subrecipient) as long as the entity is not the Prime Applicant for those submissions.

G. Eligibility Requirements Specific to Topic Area 2

To be eligible to apply under Topic Area 2, the applicant must also apply under Topic Area 1. If an applicant only applies to Topic Area 2, without also applying to Topic Area 1, the application will be deemed ineligible and will not be submitted for further review by EERE. Additionally, to be eligible for funding under Topic Area 2, the applicant must be selected for award negotiations under both Topic

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Area 1 and Topic Area 2. That is, EERE will not select any Topic Area 2 applications that are not also selected under Topic Area 1.

H. Questions Regarding Eligibility

EERE will not make eligibility determinations for potential applicants prior to the date on which applications to this FOA must be submitted. The decision whether to submit an application in response to this FOA lies solely with the applicant.

IV. Application and Submission Information

A. Application Process

The application process will include two phases: an optional Letter of Intent phase and a Full Application phase.

EERE performs an initial eligibility review of the applicant submissions¹⁷ to determine whether they meet the eligibility requirements of Section III of the FOA. EERE will not review or consider submissions that do not meet the eligibility requirements of Section III. All submissions must conform to the following form and content requirements, including maximum page lengths (described below) and must be submitted via EERE Exchange at <https://eere-Exchange.energy.gov>, unless specifically stated otherwise. **EERE will not review or consider submissions submitted through means other than EERE Exchange, submissions submitted after the applicable deadline, or incomplete submissions.** EERE will not extend deadlines for applicants who fail to submit required information and documents due to server/connection congestion.

A **Control Number** will be issued when an applicant begins the EERE Exchange application process. This control number must be included with all application documents, as described below.

The Full Application and Reply to Reviewer Comments must conform to the following requirements:

- Each must be submitted in Adobe PDF format unless stated otherwise;
- Each must be written in English;
- All pages must be formatted to fit on 8.5 x 11 inch paper with margins not less than one inch on every side. Use Calibri typeface, a black font color, and a font

¹⁷ The Letter of Intent is not subject to an eligibility review process.

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size of 12 point or larger (except in figures or tables, which may be 10 point font). A symbol font may be used to insert Greek letters or special characters, but the font size requirement still applies. References must be included as footnotes or endnotes in a font size of 10 or larger. Footnotes and endnotes are counted toward the maximum page requirement;

- The Control Number must be prominently displayed on the upper right corner of the header of every page. Page numbers must be included in the footer of every page; and
- Each submission must not exceed the specified maximum page limit, including cover page, charts, graphs, maps, and photographs when printed using the formatting requirements set forth above and single spaced. If applicants exceed the maximum page lengths indicated below, EERE will review only the authorized number of pages and disregard any additional pages.

Applicants are responsible for meeting each submission deadline. **Applicants are strongly encouraged to submit their Letters of Intent (optional for Topic Area 1 and Topic Area 2), Full Applications, and Replies to Reviewer Comments at least 48 hours in advance of the submission deadline.** Under normal conditions (i.e., at least 48 hours in advance of the submission deadline), applicants should allow at least 1 hour to submit a Letter of Intent, Full Application, or Reply to Reviewer Comments. Once the Letter of Intent, Full Application, or Reply to Reviewer Comments is submitted in EERE Exchange, applicants may revise or update that submission until the expiration of the applicable deadline. If changes are made to any of these documents, the applicant must resubmit the Letter of Intent, Full Application, or Reply to Reviewer Comments before the applicable deadline.

EERE urges applicants to carefully review their Letters of Intent, Full Applications, and Replies to Reviewer Comments to allow sufficient time for the submission of required information and documents. All Full Applications that pass the initial eligibility review will undergo comprehensive technical merit review according to the criteria identified in Section V.A.ii. of the FOA.

i. Additional Information on EERE Exchange

EERE Exchange is designed to enforce the deadlines specified in this FOA. The “Apply” and “Submit” buttons will automatically disable at the defined submission deadlines. Should applicants experience problems with EERE Exchange, the following information may be helpful.

Applicants that experience issues with submission PRIOR to the FOA deadline: In the event that an applicant experiences technical difficulties with a submission, the applicant should contact the EERE Exchange helpdesk for assistance ([EERE-ExchangeSupport@hq.doe.gov](#))

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ExchangeSupport@hq.doe.gov). The EERE Exchange helpdesk and/or the EERE Exchange system administrators will assist applicants in resolving issues.

B. Application Forms

The application forms and instructions are available on EERE Exchange. To access these materials, go to <https://eere-Exchange.energy.gov> and select the appropriate funding opportunity number.

Note: The maximum file size that can be uploaded to the EERE Exchange website is 10MB. Files in excess of 10MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 50MB but is still within the maximum page limit specified in the FOA, it must be broken into parts and denoted to that effect. For example:

TechnicalVolume_Part_1

TechnicalVolume_Part_2

C. Content and Form of the Letter of Intent

Letters of Intent will be used by EERE to plan for the merit review process. The letters must not contain any proprietary or sensitive business information. The letters will not be used for down-selection purposes, and do not commit an applicant to submit an application.

Letters of Intent are optional. A separate Letter of Intent should be submitted for each Topic Area to which the applicant intends to apply.

Each applicant must provide the following information as part of the Letter of Intent for Topic Area 1:

Topic Area 1:

- Project Title;
- Prime Organization;
- Whether the application has been previously submitted to EERE;
- % of effort contributed by the Prime Organization;
- The Project Team, including:
 - The Principal Investigator for the prime recipient;
 - Team Members (i.e., subrecipients); and
 - Key Participants (i.e., individuals who contribute in a substantive, measurable way to the execution of the proposed project);
- Technical Topic or Area; and

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- Abstract – The abstract provided must be not more than 200 words in length, and must provide a truncated explanation of the proposed project.

Each applicant must provide the following information as part of the Letter of Intent for Topic Area 2:

Topic Area 2:

- Project Title;
- Prime Organization;
- % of effort contributed by the Prime Organization;
- The Project Team, including:
 - The Principal Investigator for the prime recipient;
 - Team Members (i.e., subrecipients); and
 - Key Participants (i.e., individuals who contribute in a substantive, measurable way to the execution of the proposed project);
- Technical Topic or Area; and
- Abstract – The abstract provided must be not more than 200 words in length, and must provide a truncated explanation of the proposed project.

D. Content and Form of the Full Application

Applicants must submit a Full Application by the specified due date and time to be considered for funding under this FOA. Applicants must complete the following application forms found on the EERE Exchange website at <https://eere-Exchange.energy.gov>, in accordance with the instructions.

All Full Application documents must be marked with the Control Number issued to the applicant. When applicants start a proposal in EERE Exchange, they will receive a control number in EERE Exchange, and must include that control number in the file name of their Full Application submission (i.e., *Control number_Applicant Name_Full Application*).

i. Full Application Content Requirements

EERE will not review or consider ineligible Full Applications (see Section III. of the FOA).

Each Full Application shall be limited to a single concept or technology. Unrelated concepts and technologies shall not be consolidated in a single Full Application. Full Applications must conform to the following requirements:

Questions about this FOA? Email IACs@ee.doe.gov. Problems with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov Include FOA name and number in subject line.

Topic Area 1:

Component	File Format	Page Limit	File Name
Technical Volume	PDF	20	ControlNumber_LeadOrganization_TechnicalVolume
Resumes	PDF	1	ControlNumber_LeadOrganization_Resumes
Letters of Commitment	PDF	1	ControlNumber_LeadOrganization_LOCs
Statement of Project Objectives	MS Word	5	ControlNumber_LeadOrganization_SOPO
SF-424	PDF		ControlNumber_LeadOrganization_App424
Budget Justification Workbook			ControlNumber_LeadOrganization_Budget_Justification
Summary/Abstract for Public Release	PDF	1	ControlNumber_LeadOrganization_Summary
Summary Slide	MS Powerpoint	1	ControlNumber_LeadOrganization_Slide
Subrecipient Budget Justification			ControlNumber_LeadOrganization_Subrecipient_Budget_Justification
DOE Work Proposal for FFRDC, if applicable (see DOE O 412.1A, Attachment 3)	PDF		ControlNumber_LeadOrganization_WP
Authorization from cognizant Contracting Officer for FFRDC	PDF		ControlNumber_LeadOrganization_FFRDCAuth
SF-LLL Disclosure of Lobbying Activities	PDF		ControlNumber_LeadOrganization_SF-LLL
Diversity and Inclusion Plan	PDF	5	ControlNumber_Diversity_Inclusion_Plan

Topic Area 2:

Component	File Format	Page Limit	File Name
Technical Volume/Statement of Project Objectives	PDF	5	ControlNumber_LeadOrganization_TechnicalVolume
Resumes	PDF	1	ControlNumber_LeadOrganization_Resumes
Letters of Commitment	PDF	1	ControlNumber_LeadOrganization_LOCs
SF-424	PDF	1	ControlNumber_LeadOrganization_App424

Questions about this FOA? Email IACs@ee.doe.gov. Problems with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov Include FOA name and number in subject line.

Note: The maximum file size that can be uploaded to the EERE Exchange website is 10MB. Files in excess of 10MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 10MB but is still within the maximum page limit specified in the FOA it must be broken into parts and denoted to that effect. For example:

TechnicalVolume_Part_1

TechnicalVolume_Part_2

EERE will not accept late submissions that resulted from technical difficulties due to uploading files that exceed 10MB.

EERE provides detailed guidance on the content and form of each component below.

ii. Technical Volume

The Technical Volume must be submitted in PDF format. The Technical Volume must conform to the following content and form requirements, including maximum page lengths. If applicants exceed the maximum page lengths indicated below, EERE will review only the authorized number of pages and disregard any additional pages. This volume must address the Merit Review Criteria as discussed in Section V.A.ii. of the FOA. Save the Technical Volume in a single PDF file using the following convention for the title “ControlNumber_LeadOrganization_TechnicalVolume”..

Applicants must provide sufficient citations and references to the primary research literature to justify the claims and approaches made in the Technical Volume. However, EERE and reviewers are under no obligation to review cited sources.

The Technical Volume to the Full Application may not be more than the number of pages specified in the table below, including the cover page, table of contents, and all citations, charts, graphs, maps, photos, or other graphics, and must include all of the information in the table below. The applicant should consider the weighting of each of the evaluation criteria (see Section V.A.ii of the FOA) when preparing the Technical Volume.

Topic Area Number	Topic Area Title	Page Limit
1	Manufacturing Technical Assistance and Energy Engineering Workforce Development	20

Questions about this FOA? Email IACs@ee.doe.gov. Problems with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov Include FOA name and number in subject line.

2	Commercial Building Efficiency Workforce Development Pilot Project [Optional Topic]	5
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The Technical Volume must conform to the following content requirements:

Topic Area 1:

SECTION	DESCRIPTION
Cover Page	The cover page must include the applicant’s name, project title, the specific FOA Topic Area being addressed, both the technical and business points of contact, names of all team member organizations, and any statements regarding confidentiality.
Project Overview (Approximately 10% of the Technical Volume)	<p>The Project Overview must contain the following information:</p> <ul style="list-style-type: none"> • Background: The applicant must discuss the background of their organization, including the history, successes, and current technical assistance status relevant to the topic being addressed in the Full Application. Any satellite, community college/technical school or supporting institutions must be identified. Project Goal: The applicant must explicitly identify the targeted improvements to the current technical assistance status and the critical success factors in achieving that goal. • DOE Impact: The applicant must discuss the impact that DOE funding would have on the proposed project. Applicants must specifically explain how DOE funding, relative to prior, current, or anticipated funding from other public and private sources, is necessary to achieve the project objectives. • Relevance and Outcomes: The applicant must provide a detailed description of the proposed IAC program, including the principles and objectives that will be pursued during the project. This section must describe the relevance of the proposed project to the goals and objectives of the FOA, including the potential to meet specific DOE technical targets or other relevant performance targets. The applicant must clearly specify the expected outcomes of the project.
Topic 1: IAC Operations Approach (Approximately 30% of the Technical Volume)	IAC Operations Approach must include a summary of the applicant’s plan to provide training to students, how assessments will be planned and conducted, how implementation follow-up will be conducted, how non-participating manufacturers will be reached, how partnerships will be leveraged during the entire process, and how diversity objectives will be incorporated into the IAC’s approach. Elements to be included are:

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	<ul style="list-style-type: none"> • The organizational model, operation plan, proposed tasks and organizational structure to achieve IAC objectives • A discussion of how IAC Program goals and established guidelines/protocols will be implemented by the Center • Plans to incorporate existing program priorities including cybersecurity, smart manufacturing & energy management, as well as decarbonization and electrification and resiliency planning into assessments • Diversity and Inclusion Plan (submitted separately) that addresses how the applicant would increase IAC program diversity with respect to: the inclusion of individuals from underrepresented groups in the IAC operations; the extent the workforce development efforts would address the training needs of underrepresented groups; and the extent the IAC (main center) or its partners will operate in and/or provide resources or assessments to entities located in disadvantaged communities • Plans to increase retention, encourage extended program participation; and enhance diverse alumni connections • Plans for ensuring the health and safety requirements are implemented for faculty and students on industrial assessments • Outreach plan describing how to reach non-participating SMEs in the region • Plans to integrate satellite centers or other configurations into the main centers operations (if applicable) including MSIs • A Statement of Project Objectives (SOPO) (submitted separately) that contains the following information: <ul style="list-style-type: none"> ○ Project Objectives: The Applicant must provide a clear and concise (high-level) statement of the goals and objectives of the project as well as the expected outcomes. ○ Scope Summary: The Applicant must provide a summary description of the overall work scope and approach to achieve the objective(s). The overall work scope is to be divided by performance periods that are separated by discrete, approximately annual decision points (see below for more information on go/no-go decision points). The applicant must describe the specific expected end result of each performance period. ○ Task Descriptions for the primary activities of the Center to include: <ul style="list-style-type: none"> ▪ Overall project management and other administrative tasks such as establishment of office space, meetings, general training, etc. ▪ Training, educational opportunities, other related activities for IAC students
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Questions about this FOA? Email IACs@ee.doe.gov. Problems with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov Include FOA name and number in subject line.

	<ul style="list-style-type: none"> ▪ Recruiting clients for industrial assessments and outreach strategy to reach non-participating manufacturers ▪ Conducting industrial assessments ▪ Implementing follow-up and planning to maximize implementation of identified opportunities ▪ Activities to leverage other EERE and AMO activities such as Better Plants, CHP TAPs, 50001 Ready to support the SMEs served ▪ Communications and resource planning for supporting non-participating local manufacturers, including those located in disadvantaged communities and ▪ General task to conduct special projects for DOE such as student led research projects, special training opportunities <ul style="list-style-type: none"> ○ Milestone Summary: The Applicant must provide a summary of milestones for the project to demonstrate success, where success is defined as technical achievement rather than simply completing a task. All milestones must be SMART (Specific, Measurable, Achievable, Relevant, and Timely) to the extent practical. At least one milestone per quarter for the duration of the project must be proposed. <ul style="list-style-type: none"> ▪ Go/No-Go Decision Point Summary: The Applicant must provide a summary of project-wide go/no-go decision points for each 12-month budget period. The Applicant must propose the specific technical criteria to be used to make the go/no-go decision. Activities to leverage other EERE and AMO activities such as Better Plants, CHP TAPs, 50001 Ready to support the SMEs served.
<p>Topic 1: Student Staffing, Training & Integration (Approximately 20% of the Technical Volume)</p>	<p>The Student Staffing & Training discussion must contain the following information:</p> <ul style="list-style-type: none"> • A plan for student staffing and utilization that emphasizes a comprehensive student training program which includes: assessment experience, training in tools and other resources related to industrial energy systems, professional skills development and relevant coursework. Plan must describe a process to ensure that graduating IAC students achieve a measurable level of competency in all or most of the areas noted above, and what that competency measure will be. Plan must address student diversity, equity, and inclusion. • Plan to provide enhanced student training and experience that could include internships/cooperative education for students with partners. • Plan to provide opportunities for student participation in third party training and certification programs.

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	<ul style="list-style-type: none"> • Provide detailed information about planned curricula that will be incorporated into the proposed Industrial Assessment program. • Plans for new curriculum development to meet the scientific and technical training needs of the Industrial Assessment program and inclusion of other disciplines (e.g., business, marketing, environmental studies etc.) into training and student employee makeup. • Plans promote the development or enhancement of an accredited bachelor’s degree in engineering that addresses the entire range of pedagogical content within the context of IAC activities.
<p>Collaborations & Industrial Demographics (Approximately 20% of the Technical Volume)</p>	<p>The Collaborations & Industrial Demographics discussion must contain the following information:</p> <ul style="list-style-type: none"> • Describe the industrial demographics of the proposed area of service in which assessments will be conducted. Include the available number and types SMEs that will be assisted by the Center. • Describe any partnerships with other organizations (e.g. utilities; federal, state, and local entities, community-based organizations, industry, and associations) through which the achievement of AMO program goals are enhanced and both the IAC and the partnering organization benefit. Describe how these partners will interact with Center activities and, as appropriate, how they bring direct resources including scholarships, internships and other forms of cost share. Include how these partnerships may be expanded through the course of the project. • Describe past and current partnerships, particularly with industrial companies in the region that have been utilized for student education and real-world experience. • Describe past and current partnerships, including those with institutions, organizations, or entities serving underrepresented groups, if applicable. • Describe the challenges in the proposed area of service as related to implementation of energy efficiency recommendations, productivity improvements, implementation of new technology and any other issues that manufacturers/SMEs face.
<p>Technical Qualifications and Resources (Approximately 20% of the Technical Volume)</p>	<p>The Technical Qualifications and Resources discussion must contain the following information:</p> <ul style="list-style-type: none"> • Describe the experience and qualifications of the proposed Principal Investigator/Director for the center and his/her current position within the university or college. Both Directors and/or Assistant Directors must be professors of professional practice within the Engineering Departments of their proposing institutions.

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	<ul style="list-style-type: none"> • Describe the Project Team’s qualifications and expertise, including those of key sub-recipients and proposed partners. Include: <ul style="list-style-type: none"> ○ The roles and the work to be performed by each Key Participant; ○ Business agreements between the Applicant and each Key Participant; ○ How the various efforts will be integrated and managed; ○ Confidentiality and Intellectual Property issues; and ○ Communication plans • Describe the time commitment of the key team members to support the project. • Describe the Project Team’s existing equipment and facilities that will facilitate the successful completion of the proposed project; include a justification of any new equipment or facilities requested as part of the project. • This section must also include relevant, previous efforts, demonstrated collaborations with industry, and other relevant activities, including how these enable the Applicant to achieve the project objectives. • Attach one-page resumes for key participating team members as an appendix. Resumes do not count towards the page limit. Multi-page resumes are not allowed. • Describe the technical services or partnership activities to be provided by National Labs, DOE/NNSA FFRDCs and GOGOs, if applicable. • Demonstrate the level of commitment from the proposing college or university and the host department. Include commitment letters that show that the Center will have strong administrative support. Attach any letters of support from partners/end users as an appendix (1 page maximum per letter). Letters of support do not count towards the page limit.
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Topic Area 2:

SECTION	DESCRIPTION
Cover Page	The cover page must include the project title, the specific FOA Topic Area being addressed, both the technical and business points of contact, names of all team member organizations, and any statements regarding confidentiality.

Questions about this FOA? Email IACs@ee.doe.gov. Problems with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov Include FOA name and number in subject line.

<p>Topic 2 Project Overview & Approach (This section is limited to 5 pages.)</p>	<p>The Project Overview & Approach must contain the following information:</p> <ul style="list-style-type: none"> • Description of how the applicant intends to deliver technical training on building energy consuming loads and efficiency topics including: space heating and cooling, ventilation, water heating, lighting, cooking, refrigeration and plug and process loads associated with equipment. • Include a summary of existing and planned programs focused on diversity, equity and inclusion within the applicant or partnering organizations, if applicable. • Provide an estimated number of students per year, and the target number of building efficiency assessments to be conducted per year. • If the applicant intends to deliver this training via partnering technical schools/community colleges, the applicant must identify any partner(s). • Include a summary of relevant utility programs for small buildings and/or relationships with organizations representing small businesses. • Overview of potential on-the-spot improvements to be made as a part of the assessment process and the applicant’s strategy for training students to help clients convert assessment recommendations to energy upgrades. • Provide a summary of the team size, responsibilities, schedule, and process for a typical building efficiency assessment. • Applicants must estimate the amount of funding dedicated to Topic Area 2 on an annual basis • Propose an abbreviated Statement of Project Objectives for this activity.
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iii. Resumes

Applicants are required to submit 1-page resumes for key participating team members. Multi-page resumes are not allowed. Save the resumes in a single PDF file using the following convention for the title “ControlNumber_LeadOrganization_Resumes”..

iv. Letters of Commitment

Submit letters of commitment from all subrecipient and third party cost share providers. If applicable, also include any letters of commitment from partners/end users (1-page maximum per letter). Save the letters of commitment in a single PDF file.

Questions about this FOA? Email IACs@ee.doe.gov. Problems with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov Include FOA name and number in subject line.

v. Statement of Project Objectives (SOPO)

Applicants are required to complete a SOPO. A SOPO template is available on EERE Exchange at <https://eere-Exchange.energy.gov>.

The SOPO provided in the application for Topic Area 1, including the Milestone Table, must not exceed 5 pages when printed using standard 8.5 x 11 paper with 1" margins (top, bottom, left, and right) with font not smaller than 12 point. If uploading the SOPO, save the SOPO in a single Microsoft Word file using the following convention for the title "ControlNumber_LeadOrganization_SOPO". The SOPO provided in the application for Topic Area 2 must be an "abbreviated SOPO" that is shorter than five pages since the SOPO must be included within the 5 pages maximum allowed for the Technical Volume for Topic Area 2.

vi. SF-424: Application for Federal Assistance

Complete all required fields in accordance with the instructions on the form. The list of certifications and assurances in Field 21 can be found at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>, under Certifications and Assurances. Note: The dates and dollar amounts on the SF-424 are for the complete project period and not just the first project year, first phase or other subset of the project period. Save the SF-242 in a single PDF file using the following convention for the title "ControlNumber_LeadOrganization_424".

vii. Budget Justification Workbook

Applicants are required to complete the Budget Justification Workbook for Topic Area 1. This form is available on EERE Exchange at <https://eere-Exchange.energy.gov/>. Prime recipients must complete each tab of the Budget Justification Workbook for the project as a whole, including all work to be performed by the prime recipient and its subrecipients and contractors. A Budget Justification Workbook is not required with Topic Area 2 applications. Applicants who are selected under Topic Area 2 will be required to provide a Budget Justification Workbook after selection as noted in Section IV.F. "Post Selection Information Requests."

Applicants should include costs associated with required annual audits and incurred cost proposals in their proposed budget documents. The "Instructions and Summary" included with the Budget Justification Workbook will auto-populate as the applicant enters information into the Workbook.

Applicants must carefully read the "Instructions and Summary" tab provided within the Budget Justification Workbook. Save the Budget Justification

Questions about this FOA? Email IACs@ee.doe.gov. Problems with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov Include FOA name and number in subject line.

Workbook in a single Microsoft Excel file using the following convention for the title "ControlNumber_LeadOrganization_Budget_Justification".

viii. Summary/Abstract for Public Release

Applicants are required to submit a one-page summary/abstract of their project. The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It must be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (e.g., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information as DOE may make it available to the public after selections are made. The project summary must not exceed 1 page when printed using standard 8.5 x 11 paper with 1" margins (top, bottom, left, and right) with font not smaller than 12 point. Save the Summary for Public Release in a single PDF file using the following convention for the title "ControlNumber_LeadOrganization_Summary"..

ix. Summary Slide

Applicants are required to provide a single MS Powerpoint slide summarizing the proposed project. This slide is used during the evaluation process.

The Summary Slide template requires the following information:

- A technology summary;
- A description of the technology's impact;
- Proposed project goals;
- Any key graphics (illustrations, charts and/or tables);
- The project's key idea/takeaway;
- Project title, prime recipient, Principal Investigator, and Key Participant information; and
- Requested EERE funds and proposed applicant cost share.

Save the Summary Slide in a single Microsoft Powerpoint file using the following convention for the title "ControlNumber_LeadOrganization_Slide".

x. Subrecipient Budget Justification (if applicable)

Applicants must provide a separate budget justification for each subrecipient that is expected to perform work estimated to be more than \$250,000 or 25 percent of the total work effort (whichever is less). The budget justification must include the same justification information described in the "Budget Justification"

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section above. Save each subrecipient budget justification in a Microsoft Excel file using the following convention for the title “ControlNumber_LeadOrganization_Subrecipient_Budget_Justification”.

xi. Budget for DOE/NNSA FFRDC (if applicable)

If a DOE/NNSA FFRDC contractor is to perform a portion of the work, the applicant must provide a DOE WP in accordance with the requirements in DOE Order 412.1A, Work Authorization System, Attachment 3, available at: <https://www.directives.doe.gov/directives-documents/400-series/0412.1-BOrder-a-chg1-AdmChg> Save the WP in a single PDF file using the following convention for the title “ControlNumber_LeadOrganization_WP”.

xii. Authorization for non-DOE/NNSA or DOE/NNSA FFRDCs (if applicable)

The federal agency sponsoring the FFRDC must authorize in writing the use of the FFRDC on the proposed project and this authorization must be submitted with the application. The use of a FFRDC must be consistent with the contractor’s authority under its award. Save the Authorization in a single PDF file using the following convention for the title “ControlNumber_LeadOrganization_FFRDCAuth”.

xiii. SF-LLL: Disclosure of Lobbying Activities (required)

Prime recipients and subrecipients may not use any federal funds to influence or attempt to influence, directly or indirectly, congressional action on any legislative or appropriation matters.

Prime recipients and subrecipients are required to complete and submit SF-LLL, “Disclosure of Lobbying Activities”

(<https://www.grants.gov/web/grants/forms/sf-424-individual-family.html>) to ensure that non-federal funds have not been paid and will not be paid to any person for influencing or attempting to influence any of the following in connection with the application:

- An officer or employee of any federal agency;
- A Member of Congress;
- An officer or employee of Congress; or
- An employee of a Member of Congress.

Save the SF-LLL in a single PDF file using the following convention for the title “ControlNumber_LeadOrganization_SF-LLL”.

Questions about this FOA? Email IACs@ee.doe.gov. Problems with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov Include FOA name and number in subject line.

xiv. Diversity and Inclusion Plan

It is important that the activities funded under this FOA do not overlook disadvantaged communities and underrepresented groups. Accordingly, applicants must submit a Diversity and Inclusion Plan that outlines: how the proposed IAC will encourage the inclusion of individuals from underrepresented groups in the IAC operations; the extent the IAC workforce development efforts would address the training needs of underrepresented groups; and the extent the IAC (main center) or its partners will operate in and/or provide resources or assessments to entities located in disadvantaged communities. The plan should include metrics to measure impacts on local community and/or disadvantaged communities.

Save the Diversity and Inclusion Plan in a single PDF file using the following convention for the title "ControlNumber_Diversity_Inclusion_Plan".

E. Content and Form of Replies to Reviewer Comments

If replies to reviewer comments are applicable, EERE will provide applicants with reviewer comments following the evaluation of all eligible Full Applications. Applicants will have a brief opportunity to review the comments and to prepare a short Reply to Reviewer Comments responding to the comments however they desire or supplementing their Full Application. The Reply to Reviewer Comments is an optional submission; applicants are not required to submit a Reply to Reviewer Comments. EERE will post the Reviewer Comments in EERE Exchange. The expected submission deadline is on the cover page of the FOA; however, it is the applicant's responsibility to monitor EERE Exchange in the event that the expected date changes. The deadline will not be extended for applicants who are unable to timely submit their reply due to failure to check EERE Exchange or relying on the expected date alone. Applicants should anticipate having approximately three (3) business days to submit Replies to Reviewer Comments.

EERE will not review or consider ineligible Replies to Reviewer Comments (see Section III of the FOA). EERE will review and consider each eligible Full Application, even if no Reply is submitted or if the Reply is found to be ineligible.

Replies to Reviewer Comments must conform to the following content and form requirements, including maximum page lengths, described below. If a Reply to Reviewer Comments is more than three (3) pages in length, EERE will review only the first three (3) pages and disregard any additional pages.

Questions about this FOA? Email IACs@ee.doe.gov. Problems with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov Include FOA name and number in subject line.

SECTION	PAGE LIMIT	DESCRIPTION
Text	2 pages max	Applicants may respond to one or more reviewer comments or supplement their Full Application.
Optional	1 page max	Applicants may use this page however they wish; text, graphs, charts, or other data to respond to reviewer comments or supplement their Full Application are acceptable.

F. Post Selection Information Requests

If selected for award, EERE reserves the right to request additional or clarifying information regarding the following (non-exhaustive list):

- Indirect cost information;
- Other budget information (Topic Area 2 selections will be required to provide a Budget Justification Workbook as described in section IV.D.vii);
- Commitment Letters from Third Parties Contributing to Cost Share, if applicable;
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5);
- Representation of Limited Rights Data and Restricted Software, if applicable; and
- Environmental Questionnaire.

G. Dun and Bradstreet Universal Numbering System (DUNS) Number and System for Award Management (SAM)

Each applicant (unless the applicant is an individual or federal awarding agency that is excepted from those requirements under 2 CFR §25.110(b) or (c), or has an exception approved by the federal awarding agency under 2 CFR §25.110(d)) is required to: (1) Be registered in the SAM at <https://www.sam.gov> before submitting its application; (2) provide a valid DUNS number in its application; and (3) continue to maintain an active SAM registration with current information at all times during which it has an active federal award or an application or plan under consideration by a federal awarding agency. DOE may not make a federal award to an applicant until the applicant has complied with all applicable DUNS and SAM requirements and, if an applicant has not fully complied with the requirements by the time DOE is ready to make a federal award, the DOE will determine that the applicant is not qualified to receive a federal award and use that determination as

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a basis for making a federal award to another applicant.

H. Submission Dates and Times

All required submissions must be submitted in EERE Exchange no later than 5 p.m. Eastern Time on the dates provided on the cover page of this FOA.

I. Intergovernmental Review

This FOA is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

J. Funding Restrictions

i. Allowable Costs

All expenditures must be allowable, allocable, and reasonable in accordance with the applicable federal cost principles.

Refer to the following applicable federal cost principles for more information:

- Federal Acquisition Regulation (FAR) Part 31 for For-Profit entities; and
- 2 CFR Part 200 Subpart E - Cost Principles for all other non-federal entities.

ii. Pre-Award Costs

Selectees must request prior written approval to charge pre-award costs. Pre-award costs are those incurred prior to the effective date of the federal award directly pursuant to the negotiation and in anticipation of the federal award where such costs are necessary for efficient and timely performance of the scope of work. Such costs are allowable only to the extent that they would have been allowable if incurred after the date of the federal award and **only** with the written approval of the federal awarding agency, through the Contracting Officer assigned to the award.

Pre-award costs cannot be incurred prior to the Selection Official signing the Selection Statement and Analysis.

Pre-award expenditures are made at the selectee's risk. EERE is not obligated to reimburse costs: (1) in the absence of appropriations; (2) if an award is not made; or (3) if an award is made for a lesser amount than the selectee anticipated.

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1. National Environmental Policy Act (NEPA) Requirements Related to Pre-Award Costs

EERE's decision whether and how to distribute federal funds under this FOA is subject to NEPA. Applicants should carefully consider and should seek legal counsel or other expert advice before taking any action related to the proposed project that would have an adverse effect on the environment or limit the choice of reasonable alternatives prior to EERE completing the NEPA review process.

EERE does not guarantee or assume any obligation to reimburse pre-award costs incurred prior to receiving written authorization from the Contracting Officer. If the applicant elects to undertake activities that DOE determines may have an adverse effect on the environment or limit the choice of reasonable alternatives prior to receiving such written authorization from the Contracting Officer, the applicant is doing so at risk of not receiving federal funding for their project and such costs may not be recognized as allowable cost share. Nothing contained in the pre-award cost reimbursement regulations or any pre-award costs approval letter from the Contracting Officer override these NEPA requirements to obtain the written authorization from the Contracting Officer prior to taking any action that may have an adverse effect on the environment or limit the choice of reasonable alternatives. Likewise, if an application is selected for negotiation of award, and the prime recipient elects to undertake activities that are not authorized for federal funding by the Contracting Officer in advance of EERE completing a NEPA review, the prime recipient is doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

iii. Performance of Work in the United States**1. Requirement**

All work performed under awards selected from this FOA must be performed in the United States. This requirement does not apply to the purchase of supplies and equipment; however, the prime recipient should make every effort to purchase supplies and equipment within the United States. The prime recipient must flow down this requirement to its subrecipients.

2. Failure to Comply

If the prime recipient fails to comply with the Performance of Work in the United States requirement, EERE may deny reimbursement for the work conducted outside the United States and such costs may not be recognized as allowable recipient cost share. The prime recipient is responsible should

Questions about this FOA? Email IACs@ee.doe.gov. Problems with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov Include FOA name and number in subject line.

any work under this award be performed outside the United States regardless of whether the work is performed by the prime recipient, subrecipients, contractors or other project partners.

iv. Construction

Construction costs are not allowed under this FOA.

v. Foreign Travel

Foreign travel costs are not allowable under this FOA.

vi. Equipment and Supplies

To the greatest extent practicable, all equipment and products purchased with funds made available under this FOA should be American-made. This requirement does not apply to used or leased equipment.

Property disposition will be required at the end of a project if the current fair market value of property exceeds \$5,000. For-profit entity disposition requirements are set forth at 2 CFR 910.360. Property disposition requirements for other non-federal entities are set forth in 2 CFR 200.310 – 200.316.

vii. Domestic Preference – Infrastructure Projects

As appropriate and to the extent consistent with law, Applicants shall ensure that, to the greatest extent practicable, iron and aluminum as well as steel, cement, and other manufactured products (items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber) used in the proposed project shall be produced in the United States. This requirement shall flow down to all sub-awards including all contracts, subcontracts and purchase orders for work performed under the proposed project.

viii. Lobbying

Recipients and subrecipients may not use any federal funds to influence or attempt to influence, directly or indirectly, congressional action on any legislative or appropriation matters.

Recipients and subrecipients are required to complete and submit SF-LLL, “Disclosure of Lobbying Activities” (<https://www.grants.gov/web/grants/forms/sf-424-individual-family.html>) to ensure that non-federal funds have not been paid and will not be paid to any

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person for influencing or attempting to influence any of the following in connection with the application:

- An officer or employee of any federal agency;
- A Member of Congress;
- An officer or employee of Congress; or
- An employee of a Member of Congress.

ix. Risk Assessment

Prior to making a federal award, the DOE is required by 31 U.S.C. 3321 and 41 U.S.C. 2313 to review information available through any Office of Management and Budget (OMB)-designated repositories of government-wide eligibility qualification or financial integrity information, such as SAM Exclusions and “Do Not Pay.”

In addition, DOE evaluates the risk(s) posed by applicants before they receive federal awards. This evaluation may consider: results of the evaluation of the applicant's eligibility; the quality of the application; financial stability; quality of management systems and ability to meet the management standards prescribed in this part; history of performance; reports and findings from audits; and the applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-federal entities.

In addition to this review, DOE must comply with the guidelines on government-wide suspension and debarment in 2 CFR 180, and must require non-federal entities to comply with these provisions. These provisions restrict federal awards, subawards and contracts with certain parties that are debarred, suspended or otherwise excluded from or ineligible for participation in federal programs or activities.

x. Invoice Review and Approval

DOE employs a risk-based approach to determine the level of supporting documentation required for approving invoice payments. Recipients may be required to provide some or all of the following items with their requests for reimbursement:

- Summary of costs by cost categories;
- Timesheets or personnel hours report;
- Invoices/receipts for all travel, equipment, supplies, contractual, and other costs;
- UCC filing proof for equipment acquired with project funds by for-profit recipients and subrecipients;

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- Explanation of cost share for invoicing period;
 - Analogous information for some subrecipients; and
 - Other items as required by DOE.

V. Application Review Information

A. Technical Review Criteria

i. Full Applications

Applications will be evaluated against the merit review criteria shown below. All sub-criteria are of equal weight.

Topic Area 1:

Criterion 1: IAC Operations Approach (30%)

This criterion involves consideration of the following factors:

- Effectiveness and quality of the organizational model, operation plan, proposed tasks and organizational structure to achieve IAC objectives.
- Demonstrated understanding of, experience with, and ability to implement IAC Program goals and established guidelines/protocols.
- Strength and thoroughness of proposed means to develop technical and communications means to provide resources and solutions to participating and non-participating SMEs.
- Quality and extent of plans to incorporate existing priorities (e.g., energy management, cybersecurity, smart manufacturing) as well as emerging priorities (e.g., decarbonization and resiliency planning into assessments performed by the center.)
- Quality and extent of the plan (Diversity and Inclusion Plan) to increase IAC program diversity and inclusion.
- Demonstrated understanding of the health and safety requirements for faculty and students on industrial assessments.
- Quality of plan to integrate satellite centers or other configurations into the main centers operations (if applicable).
- Completeness and reasonableness of the proposed Statement of Project Objectives (SOPO).

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Criterion 2: Student Staffing, Training and Integration (25%)

This criterion involves consideration of the following factors:

- Quality of plan for student staffing and utilization that emphasizes a comprehensive student training program including: assessment experience, training in tools and other resources related to industrial energy systems, professional exposure and relevant coursework and addresses student diversity, equity, and inclusion. Plan must describe a process to ensure that graduating IAC students achieve a measurable level of competency in all or most of the areas noted above, and how competency will be measured.
- Quality and reasonableness of plan to provide enhanced student training and experience, including discussion of feasibility and demonstration of committed partnerships that may include internships/co-ops for students with partners.
- Quality of plan to provide opportunities for student participation in training/certification programs offered by national laboratories or industrial organizations.
- Quality of plan for curriculum development to meet the scientific and technical training needs of the IAC program and inclusion of other disciplines (e.g., business, marketing, environmental studies etc.) into training and student employee makeup.
- Effectiveness to engage current and past students in a social media resource to advance the network of the IAC program and link to the national alumni efforts to keep IAC students and alumni connected.
- Quality of plan to promote the development or enhancement of an accredited bachelor's degree in energy-related engineering.

Criterion 3: Collaborations and Industrial Demographics (25%)

This criterion involves consideration of the following factors:

- Demonstrated ability to form partnerships in the region that enhance the SME and student experience, particularly with utilities and industrial companies.
- Ability to leverage partnerships to bring direct resources including IAC support, scholarships, co-op, internships, incentive dollars, additional services, and implementation support and other forms of support.
- Strength and effectiveness of the partnering organizations to expand the reach of the IAC program as well as lead to increased effectiveness to both participating and non-participating SMEs.
- Level of industrial concentration to warrant IAC establishment within the applicant's region and understanding of regional industrial base.

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- Knowledge of key stakeholders and current challenges related to industrial energy efficiency in applicant's demographic region and familiarity with factors involving the implementation of energy efficiency recommendations, productivity improvements, cyber security, sustainability, resiliency planning and new technology adoption.

Criterion 4: Technical Qualifications and Resources (20%)

This criterion involves consideration of the following factors:

- Qualifications of proposed professors of professional practice and staff, including past experience assessing industrial facilities, providing student training in energy related matters, and active integration with university curriculum.
- Appropriate roles and responsibilities of all key staff and proposed time/workload commitment to the project including performance of assessments.
- Quality of performance metrics and reporting requirements to ensure ability to measure and share data on workforce development and results of energy assessments.
- Extent of previous efforts and demonstrated collaborations with industry, and other relevant activities, to achieve the project objectives.
- Adequacy of facilities, equipment, and other resources to accommodate the proposed center.
- Level of commitment from the proposing college or university and the host department, such as commitment letters, that a Center will have strong administrative support as well as support from other departments, potentially including business, marketing, communications, IT, and other areas.

Topic Area 2:

To be eligible to apply under Topic Area 2, the applicant must also apply under Topic Area 1. If an applicant only applies to Topic Area 2, without also applying to Topic Area 1, the application will be deemed ineligible and will not be submitted for further review by EERE. Additionally, to be eligible for funding under Topic Area 2, the applicant must be selected for award negotiations under both Topic Area 1 and Topic Area 2. That is, EERE will not select any Topic Area 2 applications that are not also selected under Topic Area 1.

Criterion 1: Technical Merit, Innovation, and Impact (30%)

This criterion involves consideration of the following factors:

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-
- Quality of the applicant’s plan to deliver technical training on building efficiency topics including: space heating and cooling, ventilation, water heating, lighting, cooking, refrigeration and plug and process loads associated with equipment.

Criterion 2: Student Staffing, Training and Integration (25%)

This criterion involves consideration of the following factors:

- Quality of the plan for students and building efficiency assessments, including the number of students per year and the target number of building efficiency assessments to be conducted per year.

Criterion 3: Collaborations (25%)

This criterion involves consideration of the following factors:

- Quality of the applicant's plan to deliver this training via partnering technical schools/community colleges, including identification of any proposed partner(s).

Criterion 4: Technical Qualifications and Resources (20%)

- Quality of the applicant's team, size, responsibilities, review schedule, and process for a typical building efficiency assessment.

ii. Criteria for Replies to Reviewer Comments

EERE has not established separate criteria to evaluate Replies to Reviewer Comments. Instead, Replies to Reviewer Comments are attached to the original applications and evaluated as an extension of the Full Application.

B. Standards for Application Evaluation

Applications that are determined to be eligible will be evaluated in accordance with this FOA, by the standards set forth in EERE’s Notice of Objective Merit Review Procedure (76 Fed. Reg. 17846, March 31, 2011) and the guidance provided in the “DOE Merit Review Guide for Financial Assistance,” effective September 2020, which is available at:

<https://energy.gov/management/downloads/merit-review-guide-financial-assistance-and-unsolicited-proposals-current>.

C. Other Selection Factors

i. Program Policy Factors

In addition to the above criteria, the Selection Official may consider the following program policy factors in determining which Full Applications to select for award negotiations:

- The degree to which MSIs are included on the project team (e.g., prime applicant, satellite center, technical school/community college, support center).
- Past performance of a currently active Industrial Assessment Center with regards to completion of assessments per the approved workplan, quality of assessment impacts and student metrics
- Industrial demographics/geographic diversity (client base and proximity to other Centers) to ensure appropriate services to all regions of the United States

D. Evaluation and Selection Process

i. Overview

The evaluation process consists of multiple phases; each includes an initial eligibility review and a thorough technical review. Rigorous technical reviews of eligible submissions are conducted by reviewers that are experts in the subject matter of the FOA. Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors, in determining which applications to select.

ii. Pre-Selection Clarification

EERE may determine that pre-selection clarifications are necessary from one or more applicants. Pre-selection clarifications are distinct from and less formal than pre-selection interviews. These pre-selection clarifications will solely be for the purposes of clarifying the application, and will be limited to information already provided in the application documentation. The pre-selection clarifications may occur before, during or after the merit review evaluation process. Information provided by an applicant that is not necessary to address the pre-selection clarification question will not be reviewed or considered. Typically, a pre-selection clarification will be carried out through either written responses to EERE's written clarification questions or video or conference calls with EERE representatives.

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The information provided by applicants to EERE through pre-selection clarifications is incorporated in their applications and contributes to the merit review evaluation and EERE's selection decisions. If EERE contacts an applicant for pre-selection clarification purposes, it does not signify that the applicant has been selected for negotiation of award or that the applicant is among the top ranked applications.

EERE will not reimburse applicants for expenses relating to the pre-selection clarifications, nor will these costs be eligible for reimbursement as pre-award costs.

iii. Recipient Integrity and Performance Matters

DOE, prior to making a federal award with a total amount of federal share greater than the simplified acquisition threshold, is required to review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (currently FAPIIS) (see 41 U.S.C. 2313).

The applicant, at its option, may review information in the designated integrity and performance systems accessible through SAM and comment on any information about itself that a federal awarding agency previously entered and is currently in the designated integrity and performance system accessible through SAM.

DOE will consider any written comments by the applicant, in addition to the other information in the designated integrity and performance system, in making a judgment about the applicant's integrity, business ethics, and record of performance under federal awards when completing the review of risk posed by applicants as described in 2 CFR 200.205.

iv. Selection

The Selection Official may consider the technical merit, the Federal Consensus Board's recommendations, program policy factors, and the amount of funds available in arriving at selections for this FOA.

E. Anticipated Notice of Selection and Award Negotiation Dates

EERE anticipates notifying applicants selected for negotiation of award and negotiating awards by the dates provided on the cover page of this FOA.

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VI. Award Administration Information

A. Award Notices

i. Ineligible Submissions

Ineligible Full Applications will not be further reviewed or considered for award. The Contracting Officer will send a notification letter by email to the technical and administrative points of contact designated by the applicant in EERE Exchange. The notification letter will state the basis upon which the Full Application is ineligible and not considered for further review.

ii. Full Application Notifications

EERE will notify applicants of its determination via a notification letter by email to the technical and administrative points of contact designated by the applicant in EERE Exchange. The notification letter will inform the applicant whether or not its Full Application was selected for award negotiations. Alternatively, EERE may notify one or more applicants that a final selection determination on particular Full Applications will be made at a later date, subject to the availability of funds or other factors.

iii. Successful Applicants

Receipt of a notification letter selecting a Full Application for award negotiations does not authorize the applicant to commence performance of the project. If an application is selected for award negotiations, it is not a commitment by EERE to issue an award. Applicants do not receive an award until award negotiations are complete and the Contracting Officer executes the funding agreement, accessible by the prime recipient in FedConnect.

The award negotiation process will take approximately 60 days. Applicants must designate a primary and a backup point-of-contact in EERE Exchange with whom EERE will communicate to conduct award negotiations. The applicant must be responsive during award negotiations (i.e., provide requested documentation) and meet the negotiation deadlines. If the applicant fails to do so or if award negotiations are otherwise unsuccessful, EERE will cancel the award negotiations and rescind the Selection. EERE reserves the right to terminate award negotiations at any time for any reason.

Please refer to Section IV.J.ii. of the FOA for guidance on pre-award costs.

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iv. Alternate Selection Determinations

In some instances, an applicant may receive a notification that its application was not selected for award and EERE designated the application to be an alternate. As an alternate, EERE may consider the Full Application for federal funding in the future. A notification letter stating the Full Application is designated as an alternate does not authorize the applicant to commence performance of the project. EERE may ultimately determine to select or not select the Full Application for award negotiations.

v. Unsuccessful Applicants

EERE shall promptly notify in writing each applicant whose application has not been selected for award or whose application cannot be funded because of the unavailability of appropriated funds.

B. Administrative and National Policy Requirements**i. Registration Requirements**

There are several one-time actions before submitting an application in response to this FOA, and it is vital that applicants address these items as soon as possible. Some may take several weeks, and failure to complete them could interfere with an applicant's ability to apply to this FOA, or to meet the negotiation deadlines and receive an award if the application is selected. These requirements are as follows:

1. EERE Exchange

Register and create an account on EERE Exchange at <https://eere-Exchange.energy.gov>.

This account will then allow the user to register for any open EERE FOAs that are currently in EERE Exchange. It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission. Applicants should also designate backup points of contact so they may be easily contacted if deemed necessary. **This step is required to apply to this FOA.**

The EERE Exchange registration does not have a delay; however, **the remaining registration requirements below could take several weeks to process and are necessary for a potential applicant to receive an award under this FOA.**

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2. DUNS Number

Obtain a DUNS number (including the plus 4 extension, if applicable) at <http://fedgov.dnb.com/webform>.

3. System for Award Management

Register with the SAM at <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called a Marketing Partner ID Number (MPIN) are important steps in SAM registration. Please update your SAM registration annually.

4. FedConnect

Register in FedConnect at <https://www.fedconnect.net>. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect_Ready_Set_Go.pdf.

5. Grants.gov

Register in Grants.gov (<http://www.grants.gov>) to receive automatic updates when Amendments to this FOA are posted. However, please note that Letters of Intent and Full Applications will not be accepted through Grants.gov.

6. Electronic Authorization of Applications and Award Documents

Submission of an application and supplemental information under this FOA through electronic systems used by the DOE, including EERE Exchange and FedConnect.net, constitutes the authorized representative's approval and electronic signature.

ii. Award Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR Part 200 as amended by 2 CFR Part 910.

iii. Foreign National Access

All applicants selected for an award under this FOA may be required to provide information to DOE in order to satisfy requirements for foreign nationals' access to DOE sites, information, technologies, equipment, programs or personnel. A foreign national is defined as any person who is not a U.S. citizen by birth or naturalization. If a selected applicant (including any of its subrecipients, contractors or vendors) anticipates involving foreign nationals in the

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performance of its award, the selected applicant may be required to provide DOE with specific information about each foreign national to ensure compliance with the requirements for access approval. National laboratory personnel already cleared for site access may be excluded.

iv. Subaward and Executive Reporting

Additional administrative requirements necessary for DOE grants and cooperative agreements to comply with the Federal Funding and Transparency Act of 2006 (FFATA) are contained in 2 CFR Part 170. Prime recipients must register with the new FFATA Subaward Reporting System database and report the required data on their first tier subrecipients. Prime recipients must report the executive compensation for their own executives as part of their registration profile in SAM.

v. National Policy Requirements

The National Policy Assurances that are incorporated as a term and condition of award are located at: <http://www.nsf.gov/awards/managing/rtc.jsp>.

vi. Environmental Review in Accordance with National Environmental Policy Act (NEPA)

EERE's decision whether and how to distribute federal funds under this FOA is subject to NEPA (42 U.S.C. 4321, *et seq.*). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the potential environmental impacts of their proposed actions. For additional background on NEPA, please see DOE's NEPA website, at <https://www.energy.gov/nepa>.

While NEPA compliance is a federal agency responsibility and the ultimate decisions remain with the federal agency, all recipients selected for an award will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to their proposed project. If DOE determines certain records must be prepared to complete the NEPA review process (e.g., biological evaluations or environmental assessments), the recipient may be required to prepare the records and the costs to prepare the necessary records may be included as part of the project costs.

vii. Applicant Representations and Certifications

1. Lobbying Restrictions

By accepting funds under this award, the prime recipient agrees that none of the funds obligated on the award shall be expended, directly or indirectly, to

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influence Congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. §1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

2. Corporate Felony Conviction and Federal Tax Liability Representations

In submitting an application in response to this FOA, the applicant represents that:

- a. It is **not** a corporation that has been convicted of a felony criminal violation under any federal law within the preceding 24 months; and
- b. It is **not** a corporation that has any unpaid federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

For purposes of these representations the following definitions apply:

A Corporation includes any entity that has filed articles of incorporation in any of the 50 states, the District of Columbia, or the various territories of the United States [but not foreign corporations]. It includes both for-profit and non-profit organizations.

3. Nondisclosure and Confidentiality Agreements Representations

In submitting an application in response to this FOA the applicant represents that:

- a. It **does not and will not** require its employees or contractors to sign internal nondisclosure or confidentiality agreements or statements prohibiting or otherwise restricting its employees or contractors from lawfully reporting waste, fraud, or abuse to a designated investigative or law enforcement representative of a federal department or agency authorized to receive such information.
- b. It **does not and will not** use any federal funds to implement or enforce any nondisclosure and/or confidentiality policy, form, or agreement it uses unless it contains the following provisions:

(1) *“These provisions are consistent with and do not supersede, conflict with, or otherwise alter the employee obligations, rights, or liabilities*

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created by existing statute or Executive order relating to (1) classified information, (2) communications to Congress, (3) the reporting to an Inspector General of a violation of any law, rule, or regulation, or mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety, or (4) any other whistleblower protection. The definitions, requirements, obligations, rights, sanctions, and liabilities created by controlling Executive orders and statutory provisions are incorporated into this agreement and are controlling.”

- (2) The limitation above shall not contravene requirements applicable to Standard Form 312 Classified Information Nondisclosure Agreement (<https://fas.org/sgp/othergov/sf312.pdf>), Form 4414 Sensitive Compartmented Information Disclosure Agreement (<https://fas.org/sgp/othergov/intel/sf4414.pdf>), or any other form issued by a federal department or agency governing the nondisclosure of classified information.
- (3) Notwithstanding the provision listed in paragraph (a), a nondisclosure or confidentiality policy form or agreement that is to be executed by a person connected with the conduct of an intelligence or intelligence-related activity, other than an employee or officer of the United States government, may contain provisions appropriate to the particular activity for which such document is to be used. Such form or agreement shall, at a minimum, require that the person will not disclose any classified information received in the course of such activity unless specifically authorized to do so by the United States government. Such nondisclosure or confidentiality forms shall also make it clear that they do not bar disclosures to Congress, or to an authorized official of an executive agency or the Department of Justice, that are essential to reporting a substantial violation of law.

viii. Statement of Federal Stewardship

EERE will exercise normal federal stewardship in overseeing the project activities performed under EERE awards. Stewardship Activities include, but are not limited to, conducting site visits; reviewing performance and financial reports; providing assistance and/or temporary intervention in unusual circumstances to correct deficiencies that develop during the project; assuring compliance with terms and conditions; and reviewing technical performance after project completion to ensure that the project objectives have been accomplished.

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ix. Statement of Substantial Involvement

EERE has substantial involvement in work performed under awards made as a result of this FOA. EERE does not limit its involvement to the administrative requirements of the award. Instead, EERE has substantial involvement in the direction and redirection of the technical aspects of the project as a whole. Substantial involvement includes, but is not limited to, the following:

1. EERE shares responsibility with the recipient for the management, control, direction, and performance of the project.
2. EERE may intervene in the conduct or performance of work under this award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities.
3. EERE may redirect or discontinue funding the project based on the outcome of EERE's evaluation of the project at the Go/No-Go decision point(s).
4. EERE participates in major project decision-making processes.
5. In order to ensure consistency and uniformity of operations across the U.S., DOE will collaborate with each entity in the program, and also foster collaboration and coordination between all entities. DOE also provides additional monitoring to permit specified kinds of direction or redirection of each entity's work due to interrelationships between projects and/or critical programmatic goals.

x. Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at <http://energy.gov/gc/standard-intellectual-property-ip-provisions-financial-assistance-awards>.

xi. Reporting

Reporting requirements are identified on the Federal Assistance Reporting Checklist, attached to the award agreement. This helpful EERE checklist can be accessed at <https://www.energy.gov/eere/funding/eere-funding-application-and-management-forms>. See Attachment 2 Federal Assistance Reporting Checklist, after clicking on "Model Cooperative Agreement" under the Award Package section.

xii. Go/No-Go Review

Each project selected under this FOA will be subject to a periodic project evaluation referred to as a Go/No-Go Review. At the Go/No-Go decision points, EERE will evaluate project performance, project schedule adherence, meeting

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milestone objectives, compliance with reporting requirements, and overall contribution to the EERE program goals and objectives. Federal funding beyond the Go/No-Go decision point (continuation funding) is contingent upon (1) availability of federal funds appropriated by Congress for the purpose of this program; (2) the availability of future-year budget authority; (3) recipient's technical progress compared to the Milestone Summary Table stated in Attachment 1 of the award; (4) recipient's submittal of required reports; (5) recipient's compliance with the terms and conditions of the award; (6) EERE's Go/No-Go decision; (7) the recipient's submission of a continuation application; and (8) written approval of the continuation application by the Contracting Officer.

As a result of the Go/No-Go Review, DOE may, at its discretion, authorize the following actions: (1) continue to fund the project, contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority; (2) recommend redirection of work under the project; (3) place a hold on federal funding for the project, pending further supporting data or funding; or (4) discontinue funding the project because of insufficient progress, change in strategic direction, or lack of funding.

The Go/No-Go decision is distinct from a non-compliance determination. In the event a recipient fails to comply with the requirements of an award, EERE may take appropriate action, including but not limited to, redirecting, suspending or terminating the award.

xiii. Conference Spending

The recipient shall not expend any funds on a conference not directly and programmatically related to the purpose for which the grant or cooperative agreement was awarded that would defray the cost to the United States government of a conference held by any Executive branch department, agency, board, commission, or office for which the cost to the United States government would otherwise exceed \$20,000, thereby circumventing the required notification by the head of any such Executive Branch department, agency, board, commission, or office to the Inspector General (or senior ethics official for any entity without an Inspector General), of the date, location, and number of employees attending such conference.

xiv. Uniform Commercial Code (UCC) Financing Statements

Per 2 CFR 910.360 (Real Property and Equipment) when a piece of equipment is purchased by a for-profit recipient or subrecipient with federal funds, and when

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the federal share of the financial assistance agreement is more than \$1,000,000, the recipient or subrecipient must:

Properly record, and consent to the Department's ability to properly record if the recipient fails to do so, UCC financing statement(s) for all equipment in excess of \$5,000 purchased with project funds. These financing statement(s) must be approved in writing by the Contracting Officer prior to the recording, and they shall provide notice that the recipient's title to all equipment (not real property) purchased with federal funds under the financial assistance agreement is conditional pursuant to the terms of this section, and that the government retains an undivided reversionary interest in the equipment. The UCC financing statement(s) must be filed before the Contracting Officer may reimburse the recipient for the federal share of the equipment unless otherwise provided for in the relevant financial assistance agreement. The recipient shall further make any amendments to the financing statements or additional recordings, including appropriate continuation statements, as necessary or as the Contracting Officer may direct.

xv. Implementation of Executive Order 13798, Promoting Free Speech and Religious Liberty

States, local governments, or other public entities may not condition sub-awards in a manner that would discriminate, or disadvantage sub-recipients based on their religious character.

xvi. Table of Personnel

If selected for award negotiations, the selected applicant must submit a list of personnel who are proposed to work on the project, both at the recipient and sub-recipient level. The table should include the individuals' names, job titles, role in the project and their organization. Recipients will have an ongoing responsibility to notify DOE of changes to the personnel and submit an updated list during the life of the award as there are changes to the personnel working on the project.

VII. Questions/Agency Contacts

Upon the issuance of a FOA, EERE personnel are prohibited from communicating (in writing or otherwise) with applicants regarding the FOA except through the established question and answer process as described below. Specifically, questions regarding the content of this FOA must be submitted to IACs@ee.doe.gov. Questions must be submitted not later than 3 business days

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prior to the application due date and time. Please note, feedback on individual concepts will not be provided through Q&A.

All questions and answers related to this FOA will be posted on EERE Exchange at: <https://eere-Exchange.energy.gov>. **Please note that you must first select this specific FOA Number in order to view the questions and answers specific to this FOA.** EERE will attempt to respond to a question within 3 business days, unless a similar question and answer has already been posted on the website.

Questions related to the registration process and use of the EERE Exchange website must be submitted to: EERE-ExchangeSupport@hq.doe.gov.

VIII. Other Information

A. FOA Modifications

Amendments to this FOA will be posted on the EERE Exchange website and the Grants.gov system. However, you will only receive an email when an amendment or a FOA is posted on these sites if you register for email notifications for this FOA in Grants.gov. EERE recommends that you register as soon after the release of the FOA as possible to ensure you receive timely notice of any amendments or other FOAs.

B. Government Right to Reject or Negotiate

EERE reserves the right, without qualification, to reject any or all applications received in response to this FOA and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. Commitment of Public Funds

The Contracting Officer is the only individual who can make awards or commit the government to the expenditure of public funds. A commitment by anyone other than the Contracting Officer, either express or implied, is invalid.

D. Treatment of Application Information

Applicants must not include trade secrets or commercial or financial information that is privileged or confidential in their application unless such information is necessary to convey an understanding of the proposed project or to comply with a

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requirement in the FOA. Applicants are advised to not include any critically sensitive proprietary detail.

If an application includes trade secrets or information that is commercial or financial, or information that is confidential or privileged, it is furnished to the Government in confidence with the understanding that the information shall be used or disclosed only for evaluation of the application. Such information will be withheld from public disclosure to the extent permitted by law, including the Freedom of Information Act. Without assuming any liability for inadvertent disclosure, EERE will seek to limit disclosure of such information to its employees and to outside reviewers when necessary for merit review of the application or as otherwise authorized by law. This restriction does not limit the Government's right to use the information if it is obtained from another source.

Full Applications, Replies to Reviewer Comments, and other submissions containing confidential, proprietary, or privileged information must be marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. Government is not liable for the disclosure or use of unmarked information, and may use or disclose such information for any purpose.

The cover sheet of the Full Application, Reply to Reviewer Comments, and other submission must be marked as follows and identify the specific pages containing trade secrets, confidential, proprietary, or privileged information:

Notice of Restriction on Disclosure and Use of Data:

Pages [list applicable pages] of this document may contain trade secrets, confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes or in accordance with a financial assistance or loan agreement between the submitter and the Government. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source. [End of Notice]

The header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: "Contains Trade Secrets, Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure." In addition, each line or paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.

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E. Evaluation and Administration by Non-Federal Personnel

In conducting the merit review evaluation, the Go/No-Go Reviews and Peer Reviews, the government may seek the advice of qualified non-federal personnel as reviewers. The government may also use non-federal personnel to conduct routine, nondiscretionary administrative activities, including EERE contractors. The applicant, by submitting its application, consents to the use of non-federal reviewers/administrators. Non-federal reviewers must sign conflict of interest (COI) and non-disclosure acknowledgements (NDA) prior to reviewing an application. Non-federal personnel conducting administrative activities must sign an NDA.

F. Notice Regarding Eligible/Ineligible Activities

Eligible activities under this FOA include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

G. Notice of Right to Conduct a Review of Financial Capability

EERE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

H. Requirement for Full and Complete Disclosure

Applicants are required to make a full and complete disclosure of all information requested. Any failure to make a full and complete disclosure of the requested information may result in:

- The termination of award negotiations;
- The modification, suspension, and/or termination of a funding agreement;
- The initiation of debarment proceedings, debarment, and/or a declaration of ineligibility for receipt of federal contracts, subcontracts, and financial assistance and benefits; and
- Civil and/or criminal penalties.

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I. Retention of Submissions

EERE expects to retain copies of all Letters of Intent, Full Applications, and Replies to Reviewer Comments and other submissions. No submissions will be returned. By applying to EERE for funding, applicants consent to EERE's retention of their submissions.

J. Title to Subject Inventions

Ownership of subject inventions is governed pursuant to the authorities listed below:

- Domestic Small Businesses, Educational Institutions, and Nonprofits: Under the Bayh-Dole Act (35 U.S.C. § 200 et seq.), domestic small businesses, educational institutions, and nonprofits may elect to retain title to their subject inventions; and
- All other parties: The federal Non-Nuclear Energy Act of 1974, 42. U.S.C. 5908, provides that the government obtains title to new inventions unless a waiver is granted (see below).

K. Government Rights in Subject Inventions

Where prime recipients and subrecipients retain title to subject inventions, the U.S. government retains certain rights.

1. Government Use License

The U.S. government retains a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world. This license extends to contractors doing work on behalf of the government.

2. March-In Rights

The U.S. government retains march-in rights with respect to all subject inventions. Through "march-in rights," the government may require a prime recipient or subrecipient who has elected to retain title to a subject invention (or their assignees or exclusive licensees), to grant a license for use of the invention to a third party. In addition, the government may grant licenses for use of the subject invention when a prime recipient, subrecipient, or their assignees and exclusive licensees refuse to do so.

DOE may exercise its march-in rights only if it determines that such action is necessary under any of the four following conditions:

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- The owner or licensee has not taken or is not expected to take effective steps to achieve practical application of the invention within a reasonable time;
 - The owner or licensee has not taken action to alleviate health or safety needs in a reasonably satisfied manner;
 - The owner has not met public use requirements specified by federal statutes in a reasonably satisfied manner; or
 - The U.S. manufacturing requirement has not been met.

Any determination that march-in rights are warranted must follow a fact-finding process in which the recipient has certain rights to present evidence and witnesses, confront witnesses and appear with counsel and appeal any adverse decision. To date, DOE has never exercised its march-in rights to any subject inventions.

L. Rights in Technical Data

Data rights differ based on whether data is first produced under an award or instead was developed at private expense outside the award.

“Limited Rights Data”: The U.S. government will not normally require delivery of confidential or trade secret-type technical data developed solely at private expense prior to issuance of an award, except as necessary to monitor technical progress and evaluate the potential of proposed technologies to reach specific technical and cost metrics.

Government Rights in Technical Data Produced Under Awards: The U.S. government retains unlimited rights in technical data produced under government financial assistance awards, including the right to distribute to the public. One exception to the foregoing is that invention disclosures may be protected from public disclosure for a reasonable time in order to allow for filing a patent application.

M. Copyright

The prime recipient and subrecipients may assert copyright in copyrightable works, such as software, first produced under the award without EERE approval. When copyright is asserted, the government retains a paid-up nonexclusive, irrevocable worldwide license to reproduce, prepare derivative works, distribute copies to the public, and to perform publicly and display publicly the copyrighted work. This license extends to contractors and others doing work on behalf of the government.

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N. Export Control

The U.S. government regulates the transfer of information, commodities, technology, and software considered to be strategically important to the U.S. to protect national security, foreign policy, and economic interests without imposing undue regulatory burdens on legitimate international trade. There is a network of federal agencies and regulations that govern exports that are collectively referred to as “Export Controls”. To ensure compliance with Export Controls, it is the prime recipient’s responsibility to determine when its project activities trigger Export Controls and to ensure compliance.

Export Controls may apply to individual projects, depending on the nature of the tasks. When Export Controls apply, the recipient must take the appropriate steps to obtain any required governmental licenses, monitor and control access to restricted information, and safeguard all controlled materials. Under no circumstances may foreign entities (organizations, companies or persons) receive access to export controlled information unless proper export procedures have been satisfied and such access is authorized pursuant to law or regulation.

O. Personally Identifiable Information (PII)

All information provided by the applicant must to the greatest extent possible exclude PII. The term “PII” refers to information which can be used to distinguish or trace an individual's identity, such as their name, social security number, biometric records, alone, or when combined with other personal or identifying information which is linked or linkable to a specific individual, such as date and place of birth, mother’s maiden name. (See OMB Memorandum M-07-16 dated May 22, 2007, found at:

<https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2007/m07-16.pdf>

By way of example, applicants must screen resumes to ensure that they do not contain PII such as personal addresses, personal landline/cell phone numbers, and personal emails. **Under no circumstances should Social Security Numbers (SSNs) be included in the application.** Federal agencies are prohibited from the collecting, using, and displaying unnecessary SSNs. (See, the Federal Information Security Modernization Act of 2014 (Pub. L. No. 113-283, Dec 18, 2014; 44 U.S.C. §3551).

P. Annual Independent Audits

If a for-profit entity is a prime recipient and has expended \$750,000 or more of DOE awards during the entity's fiscal year, an annual compliance audit performed by an independent auditor is required. For additional information, please refer to 2 C.F.R. § 910.501 and Subpart F.

If an educational institution, non-profit organization, or state/local government is a prime recipient or subrecipient and has expended \$750,000 or more of federal awards during the non-federal entity's fiscal year, then a Single or Program-Specific Audit is required. For additional information, please refer to 2 C.F.R. § 200.501 and Subpart F.

Applicants and subrecipients (if applicable) should propose sufficient costs in the project budget to cover the costs associated with the audit. EERE will share in the cost of the audit at its applicable cost share ratio.

APPENDIX A – COST SHARE INFORMATION

Cost Sharing or Cost Matching

The terms “cost sharing” and “cost matching” are often used synonymously. Even the DOE Financial Assistance Regulations, 2 CFR 200.306, use both of the terms in the titles specific to regulations applicable to cost sharing. EERE almost always uses the term “cost sharing,” as it conveys the concept that non-federal share is calculated as a percentage of the Total Project Cost. An exception is the State Energy Program Regulation, 10 CFR 420.12, State Matching Contribution. Here “cost matching” for the non-federal share is calculated as a percentage of the federal funds only, rather than the Total Project Cost.

How Cost Sharing Is Calculated

As stated above, cost sharing is calculated as a percentage of the Total Project Cost. FFRDC costs must be included in Total Project Costs. The following is an example of how to calculate cost sharing amounts for a project with \$1,000,000 in federal funds with a minimum 20% non-federal cost sharing requirement:

- Formula: Federal share (\$) divided by federal share (%) = Total Project Cost
Example: \$1,000,000 divided by 80% = \$1,250,000
- Formula: Total Project Cost (\$) minus federal share (\$) = Non-federal share (\$)
Example: \$1,250,000 minus \$1,000,000 = \$250,000
- Formula: Non-federal share (\$) divided by Total Project Cost (\$) = Non-federal share (%)
Example: \$250,000 divided by \$1,250,000 = 20%

What Qualifies For Cost Sharing

While it is not possible to explain what specifically qualifies for cost sharing in one or even a couple of sentences, in general, if a cost is allowable under the cost principles applicable to the organization incurring the cost and is eligible for reimbursement under an EERE grant or cooperative agreement, then it is allowable as cost share. Conversely, if the cost is not allowable under the cost principles and not eligible for reimbursement, then it is not allowable as cost share. In addition, costs may not be counted as cost share if they are paid by the federal government under another award unless authorized by federal statute to be used for cost sharing.

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The rules associated with what is allowable as cost share are specific to the type of organization that is receiving funds under the grant or cooperative agreement, though are generally the same for all types of entities. The specific rules applicable to:

- FAR Part 31 for For-Profit entities, (48 CFR Part 31); and
- 2 CFR Part 200 Subpart E - Cost Principles for all other non-federal entities.

In addition to the regulations referenced above, other factors may also come into play such as timing of donations and length of the project period. For example, the value of ten years of donated maintenance on a project that has a project period of five years would not be fully allowable as cost share. Only the value for the five years of donated maintenance that corresponds to the project period is allowable and may be counted as cost share.

Additionally, EERE generally does not allow pre-award costs for either cost share or reimbursement when these costs precede the signing of the appropriation bill that funds the award. In the case of a competitive award, EERE generally does not allow pre-award costs prior to the signing of the Selection Statement by the EERE Selection Official.

General Cost Sharing Rules on a DOE Award

- 1. Cash Cost Share** – encompasses all contributions to the project made by the recipient or subrecipient(s), for costs incurred and paid for during the project. This includes when an organization pays for personnel, supplies, equipment for their own company with organizational resources. If the item or service is reimbursed for, it is cash cost share. All cost share items must be necessary to the performance of the project.
- 2. In-Kind Cost Share** – encompasses all contributions to the project made by the recipient or subrecipient(s) that do not involve a payment or reimbursement and represent donated items or services. In-Kind cost share items include volunteer personnel hours, donated existing equipment, donated existing supplies. The cash value and calculations thereof for all In-Kind cost share items must be justified and explained in the Cost Share section of the project Budget Justification. All cost share items must be necessary to the performance of the project. If questions exist, consult your DOE contact before filling out the In-Kind cost share section of the Budget Justification.
- 3. Funds from other federal sources MAY NOT be counted as cost share.** This prohibition includes FFRDC subrecipients. Non-federal sources include any source not originally derived from federal funds. Cost sharing commitment letters from subrecipients must be provided with the original application.
- 4. Fee or profit, including foregone fee or profit, are not allowable as project costs (including cost share) under any resulting award.** The project may only incur those costs

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that are allowable and allocable to the project (including cost share) as determined in accordance with the applicable cost principles prescribed in FAR Part 31 for For-Profit entities and 2 CFR Part 200 Subpart E - Cost Principles for all other non-federal entities.

DOE Financial Assistance Rules 2 CFR Part 200 as amended by 2 CFR Part 910

As stated above, the rules associated with what is allowable cost share are generally the same for all types of organizations. Following are the rules found to be common, but again, the specifics are contained in the regulations and cost principles specific to the type of entity:

(A) Acceptable contributions. All contributions, including cash contributions and third party in-kind contributions, must be accepted as part of the prime recipient's cost sharing if such contributions meet all of the following criteria:

- (1)** They are verifiable from the recipient's records.
- (2)** They are not included as contributions for any other federally-assisted project or program.
- (3)** They are necessary and reasonable for the proper and efficient accomplishment of project or program objectives.
- (4)** They are allowable under the cost principles applicable to the type of entity incurring the cost as follows:
 - a.** For-profit organizations. Allowability of costs incurred by for-profit organizations and those nonprofit organizations listed in Attachment C to OMB Circular A-122 is determined in accordance with the for-profit cost principles in 48 CFR Part 31 in the FAR, except that patent prosecution costs are not allowable unless specifically authorized in the award document. (v) Commercial Organizations. FAR Subpart 31.2—Contracts with Commercial Organizations; and
 - b.** Other types of organizations. For all other non-federal entities, allowability of costs is determined in accordance with 2 CFR Part 200 Subpart E.
- (5)** They are not paid by the federal government under another award unless authorized by federal statute to be used for cost sharing or matching.
- (6)** They are provided for in the approved budget.

(B) Valuing and documenting contributions

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- (1)** Valuing recipient's property or services of recipient's employees. Values are established in accordance with the applicable cost principles, which mean that amounts chargeable to the project are determined on the basis of costs incurred. For real property or equipment used on the project, the cost principles authorize depreciation or use charges. The full value of the item may be applied when the item will be consumed in the performance of the award or fully depreciated by the end of the award. In cases where the full value of a donated capital asset is to be applied as cost sharing or matching, that full value must be the lesser or the following:
- a.** The certified value of the remaining life of the property recorded in the recipient's accounting records at the time of donation; or
 - b.** The current fair market value. If there is sufficient justification, the Contracting Officer may approve the use of the current fair market value of the donated property, even if it exceeds the certified value at the time of donation to the project. The Contracting Officer may accept the use of any reasonable basis for determining the fair market value of the property.
- (2)** Valuing services of others' employees. If an employer other than the recipient furnishes the services of an employee, those services are valued at the employee's regular rate of pay, provided these services are for the same skill level for which the employee is normally paid.
- (3)** Valuing volunteer services. Volunteer services furnished by professional and technical personnel, consultants, and other skilled and unskilled labor may be counted as cost sharing or matching if the service is an integral and necessary part of an approved project or program. Rates for volunteer services must be consistent with those paid for similar work in the recipient's organization. In those markets in which the required skills are not found in the recipient organization, rates must be consistent with those paid for similar work in the labor market in which the recipient competes for the kind of services involved. In either case, paid fringe benefits that are reasonable, allowable, and allocable may be included in the valuation.
- (4)** Valuing property donated by third parties.
- a.** Donated supplies may include such items as office supplies or laboratory supplies. Value assessed to donated supplies included in the cost sharing or matching share must be reasonable and must not exceed the fair market value of the property at the time of the donation.
 - b.** Normally only depreciation or use charges for equipment and buildings may be applied. However, the fair rental charges for land and the full value of equipment or other capital assets may be allowed, when they will be consumed in the

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performance of the award or fully depreciated by the end of the award, provided that the Contracting Officer has approved the charges. When use charges are applied, values must be determined in accordance with the usual accounting policies of the recipient, with the following qualifications:

- i. The value of donated space must not exceed the fair rental value of comparable space as established by an independent appraisal of comparable space and facilities in a privately-owned building in the same locality.
- ii. The value of loaned equipment must not exceed its fair rental value.

(5) Documentation. The following requirements pertain to the recipient's supporting records for in-kind contributions from third parties:

- a. Volunteer services must be documented and, to the extent feasible, supported by the same methods used by the recipient for its own employees.
- b. The basis for determining the valuation for personal services and property must be documented.

APPENDIX B – GLOSSARY

Applicant – The prime organization submitting an application under the FOA.

Continuation application – A non-competitive application for an additional budget period within a previously approved project period. At least ninety (90) days before the end of each budget period, the Recipient must submit to EERE its continuation application, which includes the following information:

- i. A report on the Recipient’s progress towards meeting the objectives of the project, including any significant findings, conclusions, or developments, and an estimate of any unobligated balances remaining at the end of the budget period. If the remaining unobligated balance is estimated to exceed 20 percent of the funds available for the budget period, explain why the excess funds have not been obligated and how they will be used in the next budget period.
- ii. A detailed budget and supporting justification if there are changes to the negotiated budget, or a budget for the upcoming budget period was not approved at the time of award.
- iii. A description of any planned changes from the negotiated Statement of Project Objectives and/or Milestone Summary Table.

Cooperative Research and Development Agreement (CRADA) – a contractual agreement between a national laboratory contractor and a private company or university to work together on research and development. For more information, see <https://www.energy.gov/gc/downloads/doe-cooperative-research-and-development-agreements>

Federally Funded Research and Development Centers (FFRDC) - FFRDCs are public-private partnerships which conduct research for the United States government. A listing of FFRDCs can be found at <http://www.nsf.gov/statistics/ffrdclist/>.

Go/No-Go Decision Points: – A decision point at the end of a budget period that defines the overall objectives, milestones and deliverables to be achieved by the recipient in that budget period. As a result of EERE’s review, EERE may take one of the following actions: 1) authorize federal funding for the next budget period; 2) recommend redirection of work; 3) discontinue providing federal funding beyond the current budget period; or 4) place a hold on federal funding pending further supporting data.

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Project – The entire scope of the cooperative agreement which is contained in the recipient’s Statement of Project Objectives.

Recipient or “Prime Recipient” – A non-federal entity that receives a federal award directly from a federal awarding agency to carry out an activity under a federal program. The term recipient does not include subrecipients.

Subrecipient – A non-federal entity that receives a subaward from a pass-through entity to carry out part of a federal program; but does not include an individual that is a beneficiary of such program. A subrecipient may also be a recipient of other federal awards directly from a federal awarding agency. Also, a DOE/NNSA and non-DOE/NNSA FFRDC may be proposed as a subrecipient on another entity’s application. See section III.E.ii.

APPENDIX C – DEFINITION OF TECHNOLOGY READINESS LEVELS

TRL 1:	Basic principles observed and reported
TRL 2:	Technology concept and/or application formulated
TRL 3:	Analytical and experimental critical function and/or characteristic proof of concept
TRL 4:	Component and/or breadboard validation in a laboratory environment
TRL 5:	Component and/or breadboard validation in a relevant environment
TRL 6:	System/subsystem model or prototype demonstration in a relevant environment
TRL 7:	System prototype demonstration in an operational environment
TRL 8:	Actual system completed and qualified through test and demonstrated
TRL 9:	Actual system proven through successful mission operations

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APPENDIX D – LIST OF ACRONYMS

ABET	Accreditation Board for Engineering and Technology
AMO	Advanced Manufacturing Office
COI	Conflict of Interest
DEC	Determination of Exceptional Circumstances
DMP	Data Management Plan
DOE	Department of Energy
DOI	Digital Object Identifier
EAC	Engineering Accreditation Commission
EERE	Energy Efficiency and Renewable Energy
FAR	Federal Acquisition Regulation
FFATA	Federal Funding and Transparency Act of 2006
FOA	Funding Opportunity Announcement
FOIA	Freedom of Information Act
FFRDC	Federally Funded Research and Development Center
GAAP	Generally Accepted Accounting Principles
IAC	Industrial Assessment Center
IPMP	Intellectual Property Management Plan
M&O	Management and Operating
MPIN	Marketing Partner ID Number
MSI	Minority-Serving Institutions
MYPP	Multi-Year Program Plan
NDA	Non-Disclosure Acknowledgement
NEPA	National Environmental Policy Act
NNSA	National Nuclear Security Agency
OMB	Office of Management and Budget
OSTI	Office of Scientific and Technical Information
PII	Personal Identifiable Information
R&D	Research and Development
RFI	Request for Information
RFP	Request for Proposal
SAM	System for Award Management
SME	Small and Medium-sized Enterprise
SOPO	Statement of Project Objectives
SPOC	Single Point of Contact
TAC	Technology Accreditation Commission
TIA	Technology Investment Agreement
TRL	Technology Readiness Level
UCC	Uniform Commercial Code
WBS	Work Breakdown Structure
WP	Work Proposal

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